Access DB#: 87680

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: SABIHA QAZI Examiner #: 74141 Date: 2/27/03

Art Unit: 1616 Phone Number 30 5-3910 Serial Number: 09/910,857

Mail Box and Bldg/Room Location: 2019 3B07 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Novel aglycon dammarane sapogenins

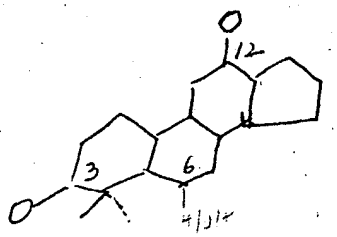
Inventors (please provide full names): DONG HUANG + DONG-GUI

Earliest Priority Filing Date: 7/24/01

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Sapogenin

Please search for Compds of Cl. I, 9, 10, 11 to 13 and use for cancer treatment



Please see attached sheets

Thank you.

Point of Contact:
Toby Port
Technical Info. Specialist
CM1 6A04
703-308-3534

****

STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher:	NA Sequence (#)		STN	453
Searcher Phone #:	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)	3	Questel/Orbit	
Date Searcher Picked Up:	Bibliographic		Dr.Link	
Date Completed:	Litigation		Lexis/Nexis	
Searcher Prep & Review Time:	120 Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time:	310 Other		Other (specify)	

PTO-1590 (8-01)

=> file reg; d stat que 138
FILE 'REGISTRY' ENTERED AT 16:53:19 ON 11 MAR 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 10 MAR 2003 HIGHEST RN 497818-02-7
DICTIONARY FILE UPDATES: 10 MAR 2003 HIGHEST RN 497818-02-7

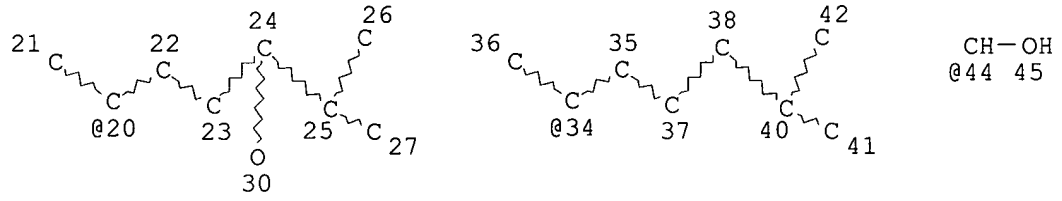
TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

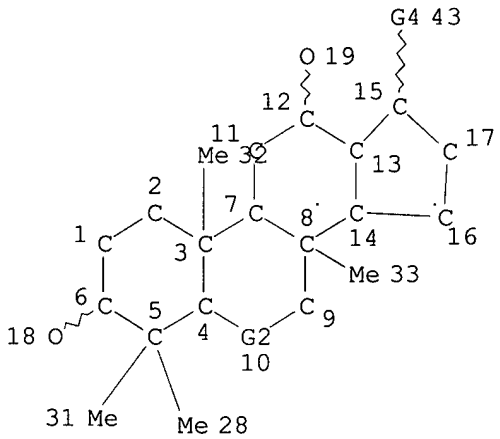
Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

L24 STR





VAR G2=CH2/44
VAR G4=20/34
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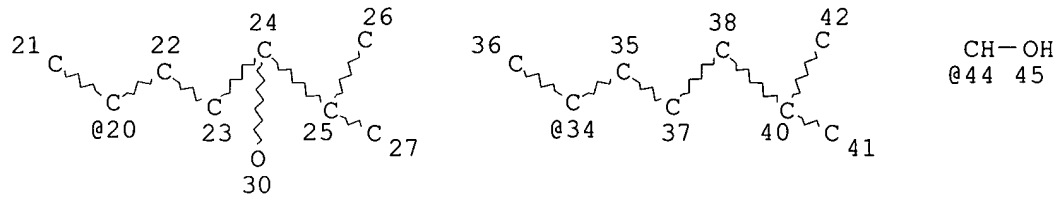
CONNECT IS E3 RC AT 25
CONNECT IS E1 RC AT 30
CONNECT IS E2 RC AT 38
CONNECT IS E3 RC AT 40
DEFAULT MLEVEL IS ATOM

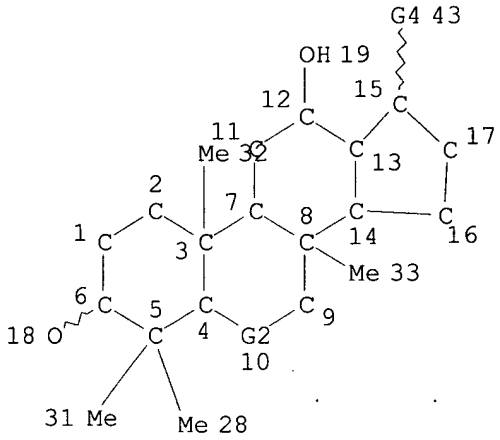
full file search run on this structure.

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 43

STEREO ATTRIBUTES: NONE
L28 429 SEA FILE=REGISTRY SSS FUL L24
L36 STR





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CONNECT IS E3 RC AT 40
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

Subset search num on this structure.

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 43

STEREO ATTRIBUTES: NONE

L38 19 SEA FILE=REGISTRY SUB=L28 SSS FUL L36

100.0% PROCESSED 425 ITERATIONS 19 ANSWERS
SEARCH TIME: 00.00.01

=> file caplus; d que nos l39
FILE 'CAPLUS' ENTERED AT 16:53:59 ON 11 MAR 2003

FILE COVERS 1907 - 11 Mar 2003 VOL 138 ISS 11
FILE LAST UPDATED: 10 Mar 2003 (20030310/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

L24 STR
L28 429 SEA FILE=REGISTRY SSS FUL L24
L36 STR
L38 19 SEA FILE=REGISTRY SUB=L28 SSS FUL L36
L39 34 SEA FILE=CAPLUS ABB=ON PLU=ON L38

=> d ibib abs hitstr l39 1-34

L39 ANSWER 1 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:97432 CAPLUS
DOCUMENT NUMBER: 138:133977
TITLE: Process for producing novel dammarane sapogenins and their use as anticancer agents
INVENTOR(S): Huang, Dong; Qi, Dong Feng
PATENT ASSIGNEE(S): Panagin Pharmaceuticals Inc., Can.
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003010182	A1	20030206	WO 2002-CA1173	20020724

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-910887 A 20010724
US 2001-982018 A 20011019

OTHER SOURCE(S): MARPAT 138:133977

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

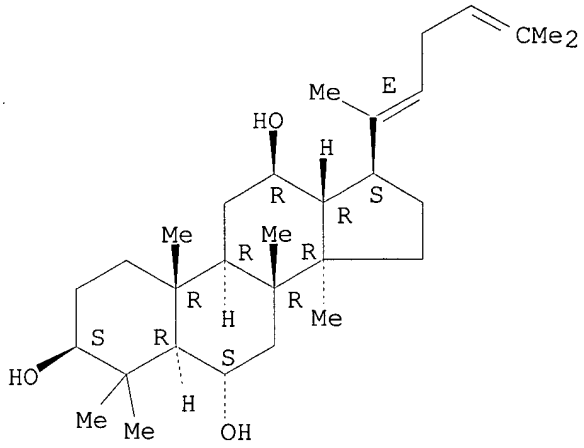
AB The present invention relates to a group of novel dammarane sapogenins, such as I [R1 = H, glc, glc(1.fwdarw.2)glc; R2 = H, OH; R3 = Me, CH2], their use in anticancer applications, and to a process for their prodn. from ginseng. More particularly, this invention pertains to a novel group of dammarane sapogenins, PAM-120 I (R1, R2 = H; R3 = CH2; dashed bond = double bond), PBM-110 II (R1 = H; R2 = OH) and PBM-100 (III) (the dammarane sapogenin structure is specifically clean of any sugar moieties at any position and hydroxyl at C-20), and PAN-20 I [R1 = .beta.-D-glucopyranosyl; R2 = H; R3 = CH2; dashed bond = double bond] and PAN-30 II [R1 = .beta.-D-glucopyranosyl(1.fwdarw.2) .beta.-D-glucopyranosyl; R2 = H] (the dammarane sapogenin structure has sugar moieties but is free of hydroxyl at C-20), obtained by chem. cleavage of dammarane saponins. A novel application of I-III for anti-cancer treatment by using them sep. or together, and/or jointly with other drugs, particularly against multi-drug resistant cancers.

IT **174688-80-3P**, PAM 110 **364779-14-6P**, PAN 20
494753-66-1P, PAM 120 **494753-67-2P**, PBM 100
494753-69-4P, PAN 30
RL: IMF (Industrial manufacture); NPO (Natural product occurrence); PAC (Pharmacological activity); PUR (Purification or recovery); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(process for producing dammarane sapogenins from ginseng and their use as anticancer agents)

RN 174688-80-3 CAPLUS

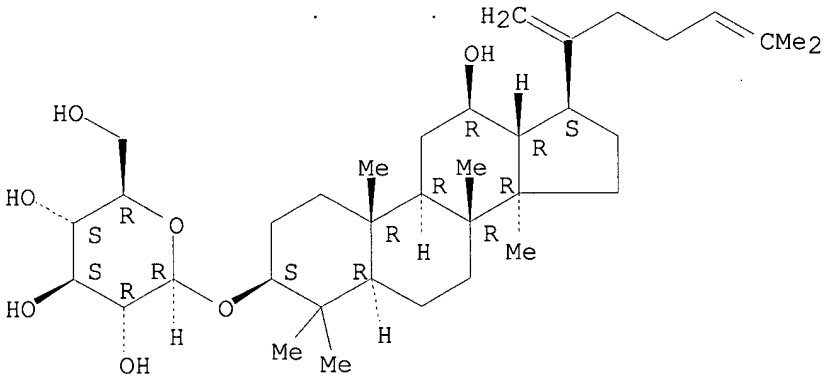
CN Dammara-20(22),24-diene-3,6,12-triol, (3.beta.,6.alpha.,12.beta.,20E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



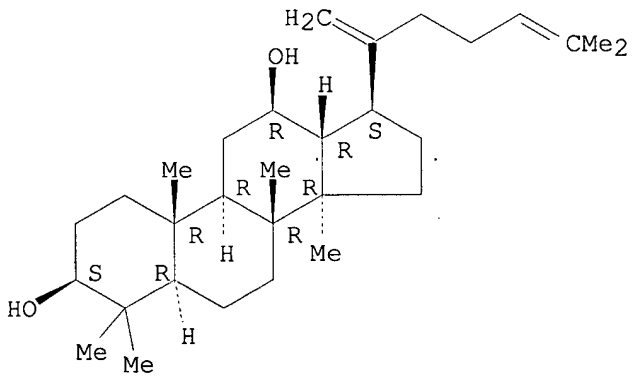
RN 364779-14-6 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20,24-dien-3-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



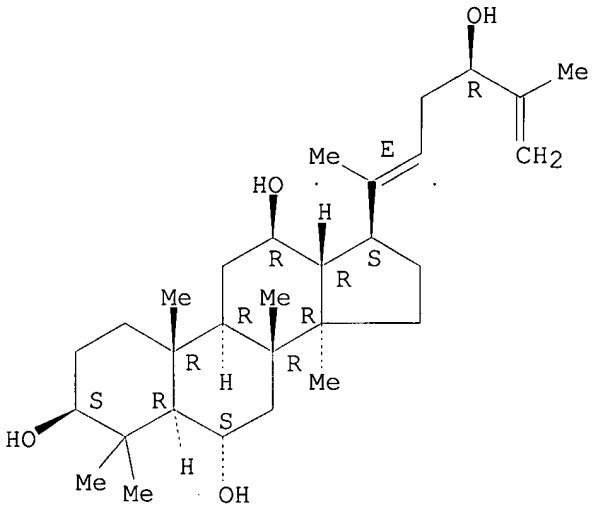
RN 494753-66-1 CAPLUS
CN Dammara-20,24-diene-3,12-diol, (3.beta.,12.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



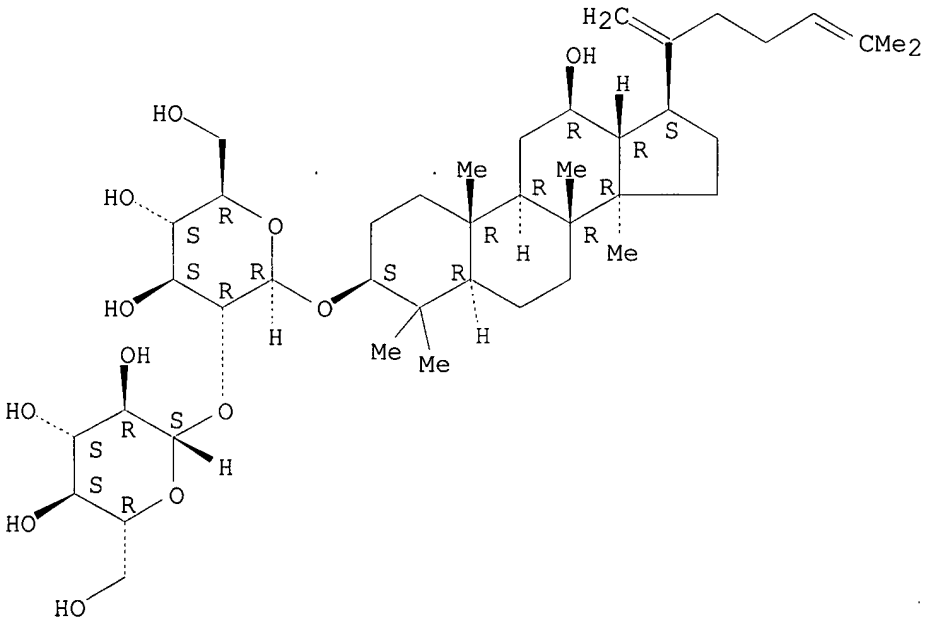
RN 494753-67-2 CAPLUS
CN Dammara-20(22),25-diene-3,6,12,24-tetrol, (3.beta.,6.alpha.,12.beta.,20E,24R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 494753-69-4 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20,24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 2 OF 34 CAPLUS COPYRIGHT 2003 ACS

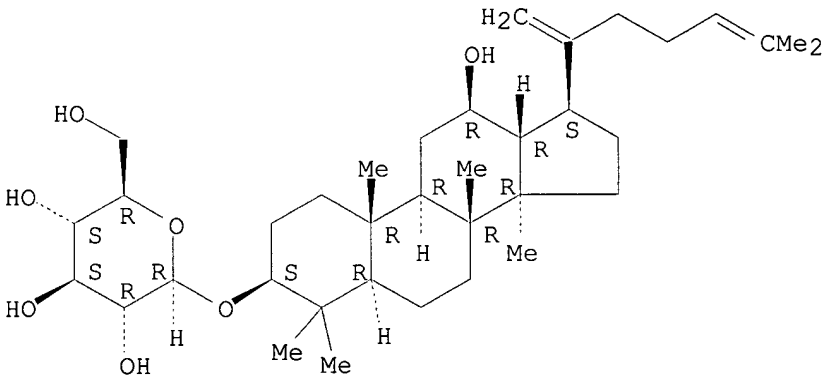
ACCESSION NUMBER: 2002:689351 CAPLUS
DOCUMENT NUMBER: 138:150225
TITLE: Three new dammarane glycosides from heat processed ginseng
AUTHOR(S): Park, Il Ho; Kim, Na Young; Han, Sang Beom; Kim, Jong Moon; Kwon, Sung Won; Kim, Hyun Jung; Park, Man Ki; Park, Jeong Hill
CORPORATE SOURCE: Research Institute of Pharmaceutical Sciences, College of Pharmacy, Seoul National University, Seoul, 151-742, S. Korea
SOURCE: Archives of Pharmacal Research (2002), 25(4), 428-432
CODEN: APHRDQ; ISSN: 0253-6269
PUBLISHER: Pharmaceutical Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Three new dammarane glycosides were isolated from the processed ginseng. Their structure were detd. to be 3.beta.,12.beta.-dihydroxydammar-20(21),24-diene-3-O-.beta.-D-glucopyranosyl(1.fwdarw.2)-.beta.-D-glucopyranoside; 3.beta.,12.beta.-dihydroxydammar-20(21),24-diene-3-O-.beta.-D-glucopyranoside, and 3.beta.,6.alpha.,12.beta.-trihydroxydammar-20(21),24-diene-6-O-.beta.-D-glucopyranoside based on spectroscopic evidences. The compds. were named as ginsenoside Rk1, Rk2, and Rk3, resp.

IT **364779-14-6P**, 3.beta.,12.beta.-Dihydroxydammar-20(21),24-diene-3-O-.beta.-D-glucopyranoside **494753-69-4P**, Ginsenoside Rk1
RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)
(new dammarane glycosides from heat-processed ginseng)

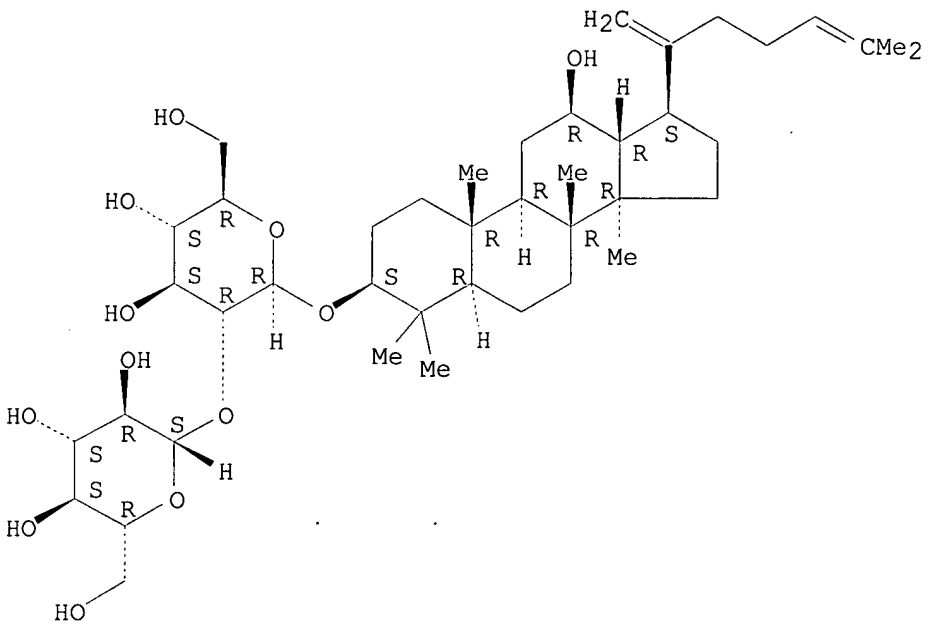
RN 364779-14-6 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20,24-dien-3-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 494753-69-4 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20,24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

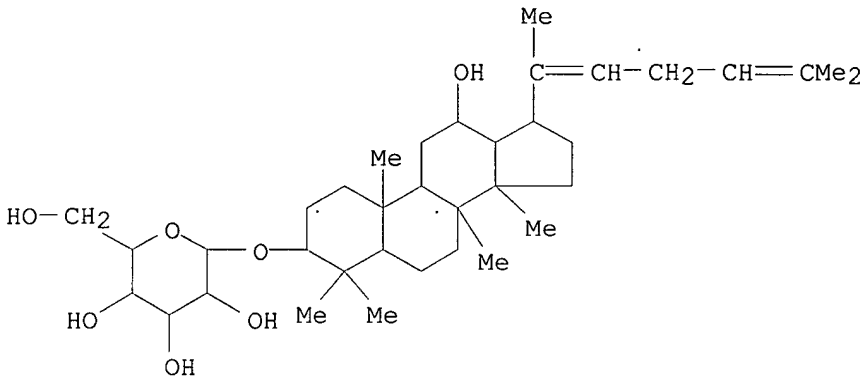


REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 3 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:580266 CAPLUS
DOCUMENT NUMBER: 138:135875
TITLE: Preparing rare ginsenoside from enzyme reaction and composition analysis of its products
AUTHOR(S): Zhao, Li-ya; Yu, Hong-shan; Jin, Feng-xie
CORPORATE SOURCE: Dept. of Food Sci. and Biotechnol., Dalian Inst. of Light Ind., Dalian, 116034, Peop. Rep. China
SOURCE: Dalian Qinggongye Xueyuan Xuebao (2002), 21(2), 112-115
CODEN: DQXUFL; ISSN: 1005-4014
PUBLISHER: Dalian Qinggongye Xueyuan Xuebao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB We study the processes of isolating ginsenosides from ginseng and sepg. protopanaxdiol type ginsenosides from ginsenoside by silica gel column method. Rare ginsenosides are obtained by enzyme hydrolysis methods from protopanaxdiol saponins. The main product from enzyme reaction is ginsenoside Rh2 and the byproducts are ginsenoside Rg3, Rg5, Rh1, Rh3 and aglycon. These rare ginsenosides are also sepd. with the silica gel column to single ginsenoside. It is shown from enzyme reaction, when the sugar moiety is at 20 - C side of ginsenoside such as Rb, Rc, and Rd are hydrolyzed, the hydroxyl is easily lost to ginsenoside Rh3 and the ginsenoside Rg3, to Rg5.

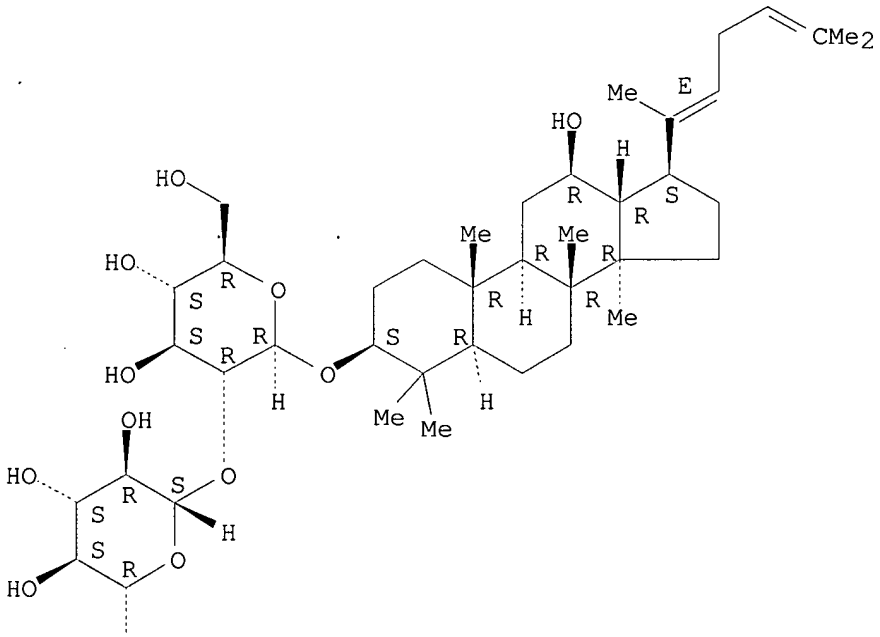
IT **105558-26-7P**, Ginsenoside Rh3 **186763-78-0P**, Ginsenoside Rg5
RL: BYP (Byproduct); PUR (Purification or recovery); PREP (Preparation) (prepg. rare ginsenoside from enzyme reaction and compn. anal. of its products)
RN 105558-26-7 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



RN 186763-78-0 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



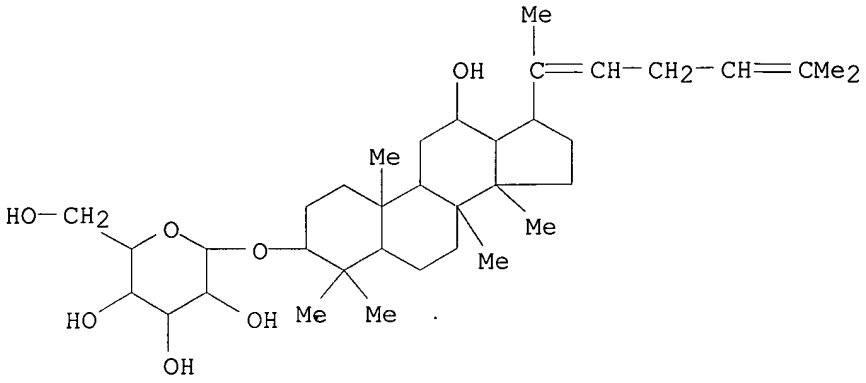
PAGE 2-A

L39 ANSWER 4 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:59488 CAPLUS
DOCUMENT NUMBER: 137:134208
TITLE: Anticarcinogenic effect of Panax ginseng C.A. Meyer and identification of active compounds
AUTHOR(S): Yun, Taik-Koo; Lee, Yun-Sil; Lee, You Hui; Kim, Shin Il; Yun, Hyo Yung
CORPORATE SOURCE: Laboratory of Experimental Pathology, Korea Cancer Center Hospital, Seoul, 139-706, S. Korea
SOURCE: Journal of Korean Medical Science (2001), 16(Suppl.), S6-S18
CODEN: JKMSEH; ISSN: 1011-8934
PUBLISHER: Korean Academy of Medical Science
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review. The failure to improve the five-year survival rate of cancer patients, from one in three in the 1960s to one in two in the 1970s, stimulated awareness of the importance of primary prevention of cancer. Korean investigators carried out extensive long-term anticarcinogenicity expts. with 2000 newborn mice to investigate whether Panax ginseng C.A. Mayer inhibited carcinogenesis included by several chem. carcinogens in 1978. There was a 22% decrease ($p<0.05$) in the incidence of urethane induced lung adenoma by the combined use of red ginseng ext. In the group sacrificed at 56 wk after the treatment with aflatoxin B1, the incidence of hepatoma significantly decreased to 75% by the addn. of red ginseng ext. ($p<0.05$). The result showed that natural products can provide hope for human cancer prevention. By the newly established "9 wk medium term anticarcinogenicity test model of lung tumors in mice" (Yun's model), we confirmed significant anticarcinogenic effects of powders and exts. of the 6-yr-old dried fresh ginseng, 5- and 6-yr old white ginsengs, and 4-, 5-, and 6-yr old red ginseng. We also demonstrated that the anticarcinogenicity of ginseng was more prominent in aged or heat treated exts. of ginseng and red ginseng made by steaming. To investigate the active components for cancer prevention, several fractions of 6-yr old fresh ginseng and red ginseng, four semi-synthetic ginsenoside Rh1, Rh2, Rg3 and Rg5, major saponin components in red ginseng, were prepd. Among the ginsenosides, Rg3 and Rg5 showed statistically significant redn. of lung tumor incidence and Rh2 had a tendency of decreasing the incidence. Ginsenoside Rg3, Rg5 and Rh2 were found to be active anticarcinogenic compds. Rg3, Rg5 and Rh2 are active components in red ginseng, and they prevent cancer either singularly or synergistically.

IT **105558-26-7**, Ginsenoside Rh3
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(anticarcinogenic effect of Panax ginseng C.A. Meyer and identification of active compds.)

RN 105558-26-7 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



REFERENCE COUNT: 89 THERE ARE 89 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

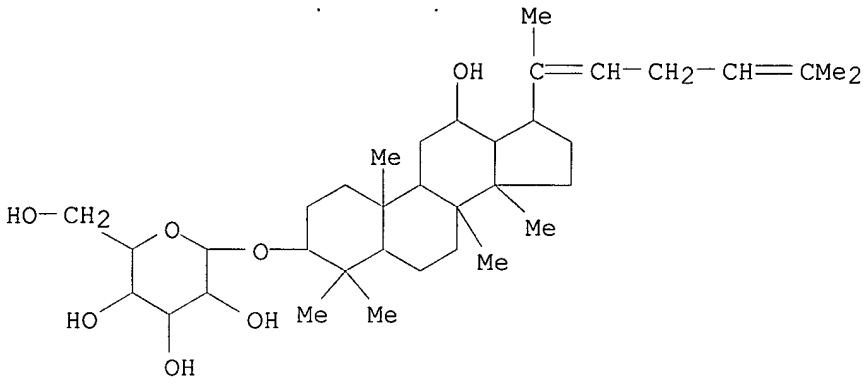
L39 ANSWER 5 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:888934 CAPLUS
DOCUMENT NUMBER: 135:371954
TITLE: Process for preparation of rare-ginsenosides
INVENTOR(S): Xu, Jingda; Jin, Yongri; Li, Xuwen; Song, Changchun; Cong, Dengli
PATENT ASSIGNEE(S): Science and Technology Development Co., Basic Medical College, Baiqiu'en Medical Univ., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1293198	A	20010502	CN 2000-123074	20001010

PRIORITY APPLN. INFO.: CN 2000-123074 20001010

AB Ginsenosides were prepd. from the hydrolyzation of ginsenoside monomer or its mixt. with 3-15% KOH or NaOH in high boiling-point alc. (such as glycol, propanediol, 1,3-butanediol, 1,4-butanediol, glycerol, diglycol, or polyethylene glycol with mol. wt. <700), at 180-270.degree., cooled to room temp., dild. with water, then extd. with org. solvent (such as chloroform, Et acetate or butanol), or sepd. with macroporous resin. Thus, 10 g NaOH disolved in 100 mL glycol, add 10 g ginsenosides, hydrolyzed at 190.degree. for 1 h, cooled to the room temp., added 50 times water, extd. with Et acetate, gave 7 g product, TLC confirmed it contained ginsenoside Rg3, Rh2, Rh1, Rg2, protpanaxadiol, and protpanaxatriol.

IT **105558-26-7P**, Ginsenoside Rh3
RL: SPN (Synthetic preparation); PREP (Preparation)
(process for prepn. of rare-ginsenosides)
RN 105558-26-7 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



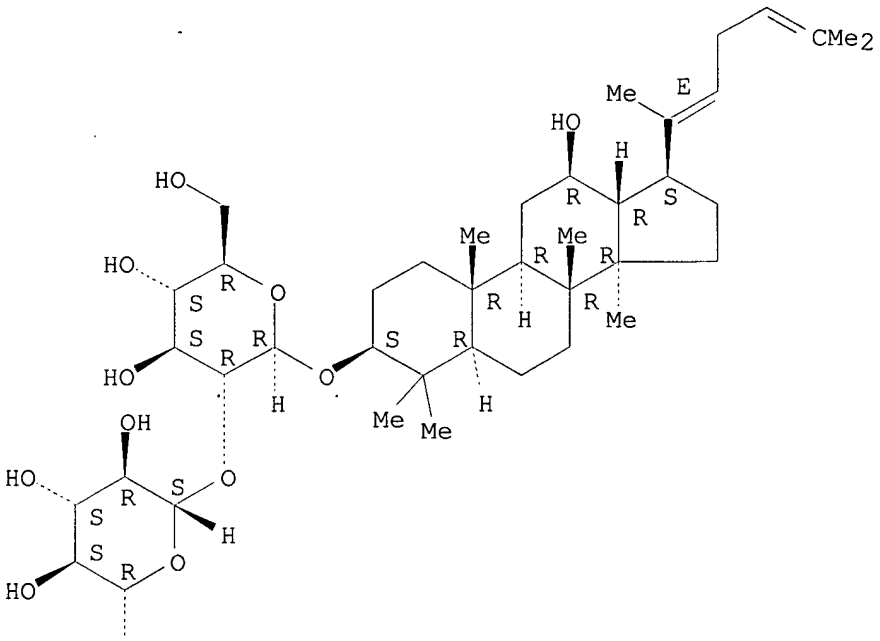
L39 ANSWER 6 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:887103 CAPLUS
DOCUMENT NUMBER: 137:72700
TITLE: Cancer chemopreventive compounds of red ginseng produced from Panax ginseng C.A. Meyer
AUTHOR(S): Yun, Taik-Koo; Lee, Yun-Sil; Lee, You Hui; Yun, Hyo Yung
CORPORATE SOURCE: Laboratory of Experimental Pathology, Korea Cancer Center Hospital, Seoul, S. Korea
SOURCE: Journal of Ginseng Research (2001), 25(3), 107-111
CODEN: JGREF7; ISSN: 1226-8453
PUBLISHER: Korean Society of Ginseng
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Fresh Panax ginseng C.A. cultivated in Korea (Korean red ginseng) was found to be ineffective as an anticarcinogenic or cancer preventive in exptl. animal model or in human case-control and cohort study. However, when treated with heat, the fresh ginseng, white ginseng and red ginseng were highly effective cancer preventives. Four compds. including 20(S)-ginsenoside Rh1 (Rh1), 20(S)-ginsenoside Rh2 (Rh2), 20(S)-ginsenoside Rg3 (Rg3) and ginsenoside Rg5 were consequently purified from Korean red ginseng, and they were tested by Yun's 9 wk medium-term anti-carcinogenicity test model. Rg3 and Rg5 statistically significantly decreased the incidence of benzo(a)pyrene-induced mouse lung tumor, Rh2 showed tendency of decrease, whereas Rh1 showed no effect. It is, therefore, concluded that Rg3 and Rg5 are active anticarcinogenic components in red ginseng and they either singularly or synergistically act in the prevention of cancer.

IT **186763-78-0**, Ginsenoside Rg5
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cancer chemopreventive compds. of red ginseng produced from Panax ginseng C.A. Meyer)
RN 186763-78-0 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 7 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:448497 CAPLUS
DOCUMENT NUMBER: 135:294045
TITLE: Liquid chromatographic determination of less polar ginsenosides in processed ginseng
AUTHOR(S): Kwon, S. W.; Han, S. B.; Park, I. H.; Kim, J. M.; Park, M. K.; Park, J. H.
CORPORATE SOURCE: College of Pharmacy, Research Institute of Pharmaceutical Science, Seoul National University, Seoul, 151-742, S. Korea
SOURCE: Journal of Chromatography, A (2001), 921(2), 335-339
CODEN: JCRAEY; ISSN: 0021-9673
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Reversed-phase LC with an evaporative light scattering detector (ELSD) is used for the detn. of less polar ginsenosides in processed ginseng. These ginsenosides include ginsenosides F4, Rg3, Rg5, Rg6, Rk1, Rk3, Rs3, Rs4, and Rs5. The method used a C18-bonded silica column with a CH3CN/H2O/CH3COOH gradient elution. (20R) and (20S) epimers and geometric isomers at the C-20 position of ginsenosides, which are not generally

sepd. by amino columns, were now clearly sepd.

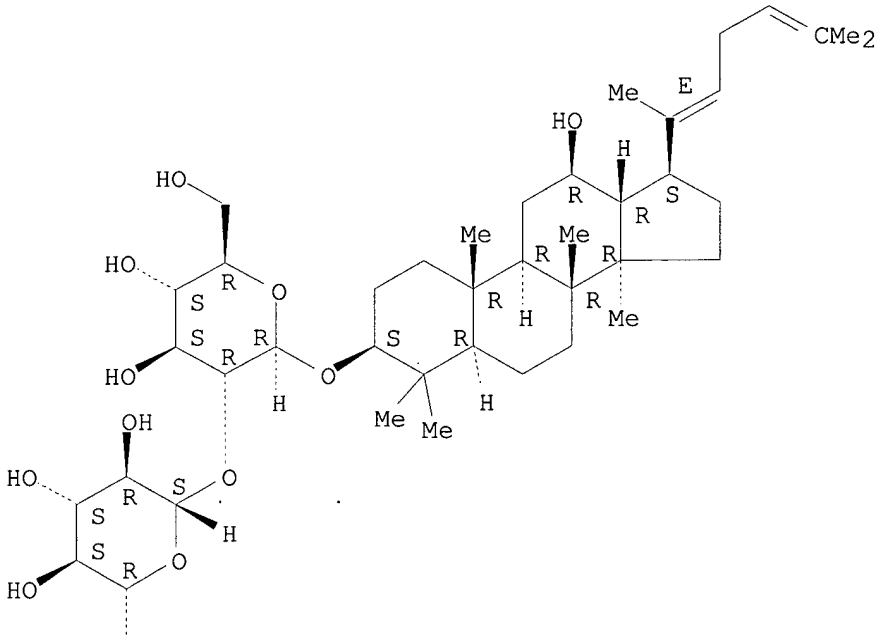
IT **186763-78-0**, Ginsenoside Rg5 **195711-64-9**, Ginsenoside Rs4 **364779-14-6 364779-16-8**
RL: ANT (Analyte); ANST (Analytical study)
(liq. chromatog. detn. of less polar ginsenosides in processed ginseng)

RN 186763-78-0 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A

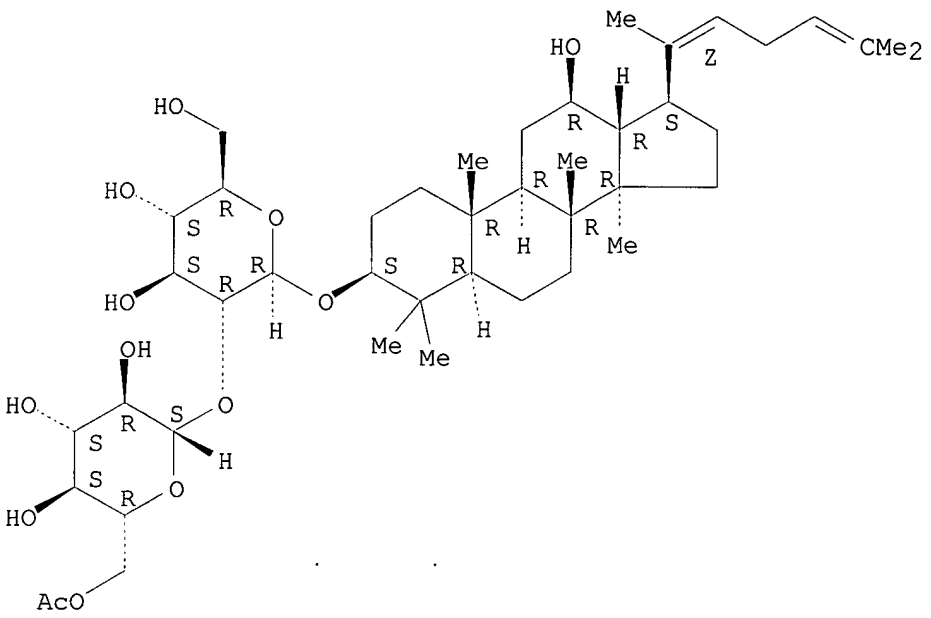


PAGE 2-A

RN 195711-64-9 CAPLUS

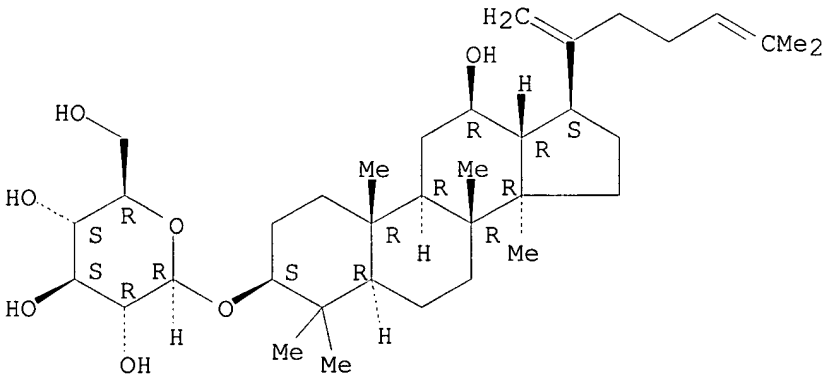
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-(6-O-acetyl-.beta.-D-glucopyranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



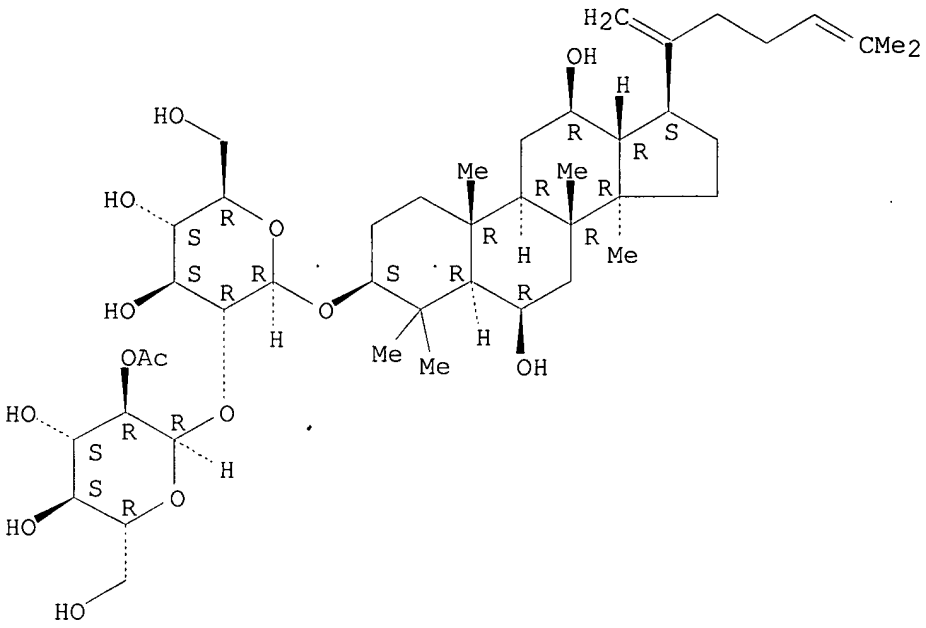
RN 364779-14-6 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20,24-dien-3-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 364779-16-8 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,6.alpha.,12.beta.)-6,12-dihydroxydammara-20,24-dien-3-yl 2-O-(2-O-acetyl-.alpha.-D-glucopyranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

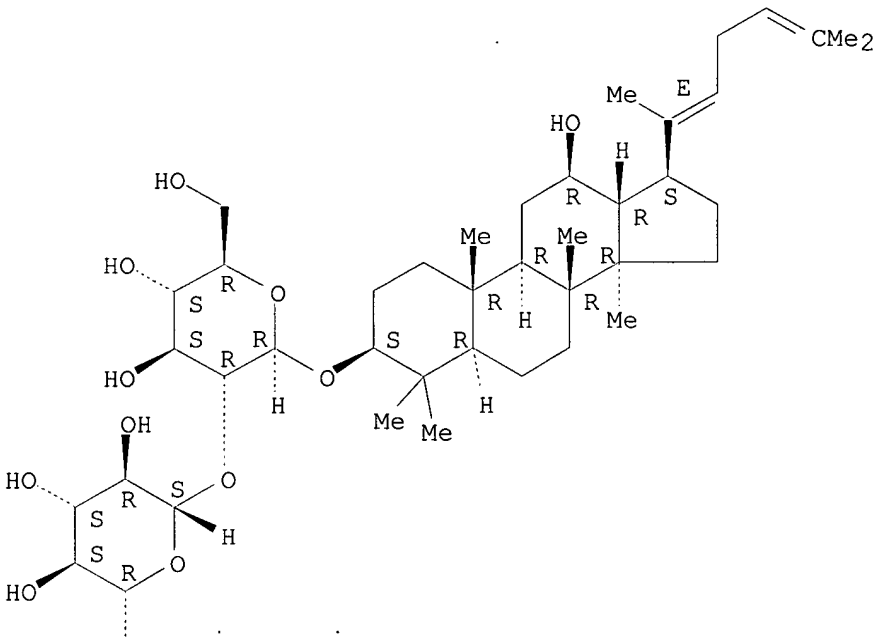
L39 ANSWER 8 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:149688 CAPLUS
DOCUMENT NUMBER: 134:205077
TITLE: NMR signal complete assignments of three protopanaxodiol monodesmosides from Panax notoginseng
AUTHOR(S): Teng, Rong-wei; Li, Hai-zhou; Wang, De-zu; He, Yi-neng; Yang, Chong-ren
CORPORATE SOURCE: Kunming Institute of Botany, The Chinese Academy of Sciences, Kunming, 650204, Peop. Rep. China
SOURCE: Bopuxue Zazhi (2000), 17(6), 461-468
CODEN: BOZAE2; ISSN: 1000-4556
PUBLISHER: Zhongguo Kexueyuan Wuhan Wuli Yanjiuso
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB Three protopanaxodiol monodesmosides isolated from mild acid hydrolysis products of root saponins of Panax notoginseng were identified as ginsenoside-Rg5, 20(R)-ginsenoside-Rg3 and 20(S)-ginsenoside-Rg3. The complete assignments of 1H and 13C NMR chem. shifts of these glycosides were obtained by means of 2D NMR techniques, such as 1H-1H COSY, TOCSY, ROESY, HMBC as well as HMQC. The differences of chem. shifts of 20(R)- and 20(S)-isomer were discussed.

IT **186763-78-0P**, Ginsenoside Rg5
RL: PRP (Properties); PUR (Purification or recovery); PREP (Preparation)
(NMR signal complete assignments of protopanaxodiol monodesmosides from Panax notoginseng)
RN 186763-78-0 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

L39 ANSWER 9 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:746388 CAPLUS
DOCUMENT NUMBER: 134:61327
TITLE: Steaming of Ginseng at High Temperature Enhances Biological Activity
AUTHOR(S): Kim, Wang Yu; Kim, Jong Moon; Han, Sang Beom; Lee, Seung Ki; Kim, Nak Doo; Park, Man Ki; Kim, Chong Kook; Park, Jeong Hill
CORPORATE SOURCE: Research Institute of Pharmaceutical Sciences College of Pharmacy, Seoul National University, Seoul, 151-742, S. Korea
SOURCE: Journal of Natural Products (2000), 63(12), 1702-1704
CODEN: JNPRDF; ISSN: 0163-3864
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The present study was performed to evaluate the effect of steaming ginseng at a temp. over 100 .degree.C on its chem. constituents and biol. activities. Raw ginseng was steamed at 100, 110, and 120 .degree.C for 2 h using an autoclave. The ginseng steamed at 120 .degree.C was more potent in its ability to induce endothelium-dependent relaxation. Steaming the raw ginseng at 120 .degree.C also remarkably increased the radical-scavenging activity. Ginsenosides F4, Rg3, and Rg5, which were

not present in raw ginseng, were produced after steaming. Ginsenosides Rg3 and Rg5 were the most abundant ginsenosides in the ginseng steamed at 120 .degree.C, accounting for 39% and 19% of all ginsenosides, resp.

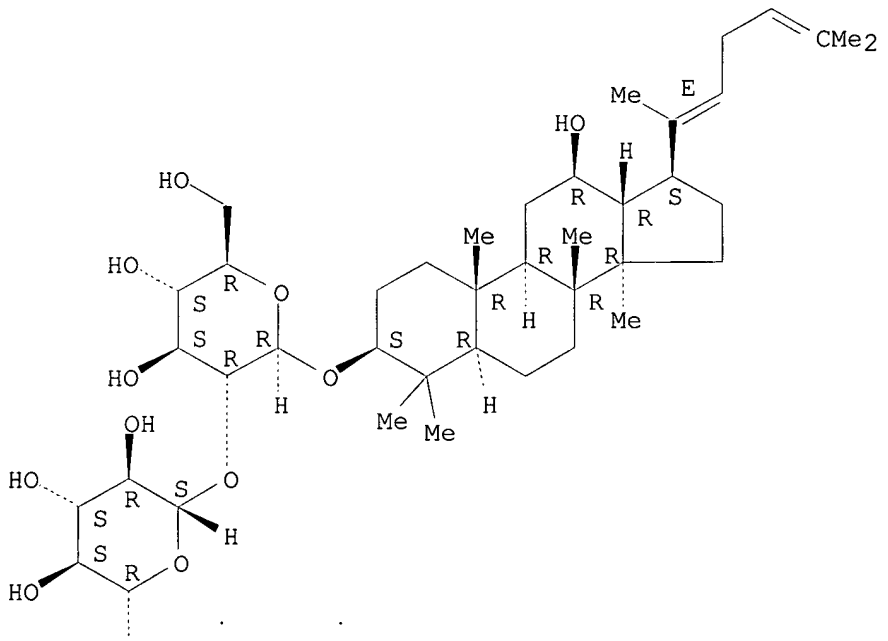
IT **186763-78-0**, Ginsenoside Rg5
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)
(steaming of Ginseng at high temp. enhances biol. activity)

RN 186763-78-0 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 10 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:168451 CAPLUS
DOCUMENT NUMBER: 133:147472
TITLE: Isolation and identification of 20(S)-ginsenoside-Rh1, -Rh2 and ginsenoside-Rh3 from leaves of Panax quinquefolium

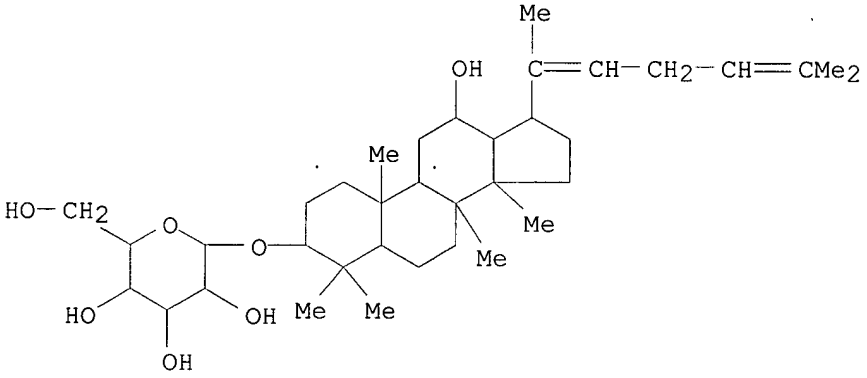
AUTHOR(S): Cong, Dengli; Song, Changchun; Xu, Jingda
CORPORATE SOURCE: Norman Bethune University of Medical Sciences, Changchun, 130021, Peop. Rep. China
SOURCE: Zhongguo Yaoxue Zazhi (Beijing) (2000), 35(2), 82-84
CODEN: ZYZAEU; ISSN: 1001-2494
PUBLISHER: Zhongguo Yaoxuehui
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB 20(S)-Ginsenoside-Rh1, -Rh2 and ginsenoside-Rh3 were isolated from the leaves of Panax quinquefolium L. and identified. The 3 compds. were extd. by water and absorbed by Macro-reticular resins, then eluted with EtOH and isolated by silica gel column chromatog.; the compds. were identified by means of phys. and chem. properties, IR, NMR, etc. Ginsenoside-Rh3 was isolated for the first time from the leaves of Panax quinquefolium L.

IT **105558-26-7**, Ginsenoside-Rh3
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of Panax quinquefolium leaves)

RN 105558-26-7 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L39 ANSWER 11 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:245924 CAPLUS
DOCUMENT NUMBER: 131:97063
TITLE: Ginsenoside-Rs4, a new type of ginseng saponin concurrently induces apoptosis and selectively elevates protein levels of p53 and p21WAF1 in human hepatoma SK-HEP-1 cells
AUTHOR(S): Kim, S. E.; Lee, Y. H.; Park, J. H.; Lee, S. K.
CORPORATE SOURCE: College of Pharmacy, Seoul National University, Seoul, 151-742, S. Korea
SOURCE: European Journal of Cancer (1999), 35(3), 507-511
CODEN: EJCAEL; ISSN: 0959-8049
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In this paper, the authors present evidence that ginsenoside-Rs4 (G-Rs4; an acetylated analog of ginsenoside-Rg5), a new ginseng saponin isolated from Panax ginseng C. A. Meyer, elevates protein levels of p53 and p21WAF1, which are assocd. with the induction of apoptosis in SK-HEP-1 cells. Flow cytometric analyses showed that G-Rs4 initially arrested the cell cycle at the G1/S boundary, but consequently induced apoptosis as

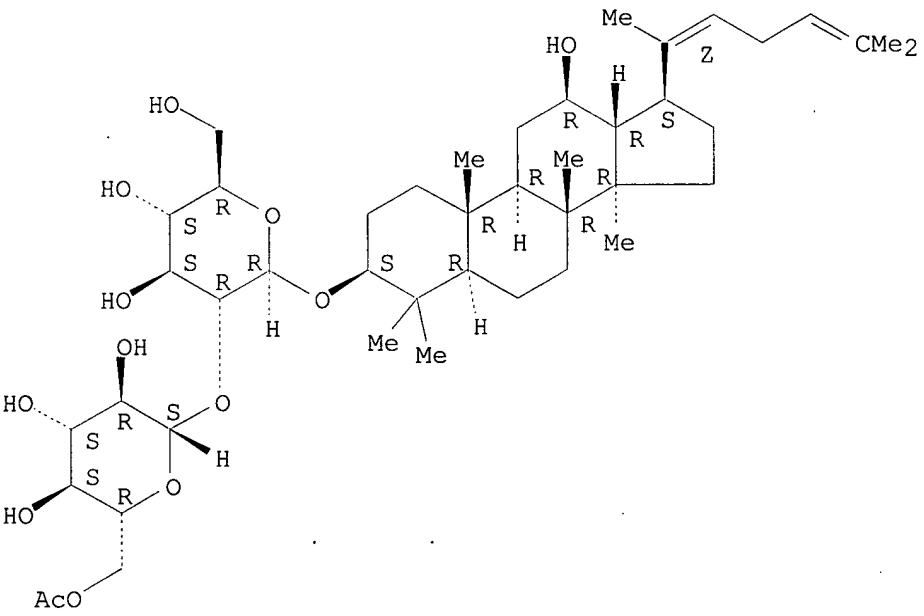
evidenced by generating an apoptotic peak. The induction of apoptosis was confirmed by the results of DNA fragmentation assays and alterations in cell morphol. after treatment of the cells with G-Rs4. Immunoblot assays showed that G-Rs4 significantly elevated protein levels of p53 and p21WAF1, concurrently with the downregulation of both cyclins E- and A-dependent kinase activities and induction of apoptosis. The authors suggest that G-Rs4 induces apoptosis, the effect of which is closely related to the downregulation of both cyclins E- and A-dependent kinase activity as a consequence of selectively elevating protein levels of p53 and p21WAF1 in SK-HEP-1 cells.

IT **195711-64-9**, Ginsenoside Rs4
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ginsenoside-Rs4 concurrently induces apoptosis and selectively elevates protein levels of p53 and p21WAF1 in human hepatoma SK-HEP-1 cells)

RN 195711-64-9 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-(6-O-acetyl-.beta.-D-glucopyranosyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 12 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:168726 CAPLUS
DOCUMENT NUMBER: 131:13808
TITLE: Non-ginsenoside nicotinic activity in ginseng species
AUTHOR(S): Lewis, Rhiannon; Wake, George; Court, Gudrun; Court, Jenny A.; Pickering, Anne T.; Kim, Young C.; Perry, Elaine K.
CORPORATE SOURCE: Medical Research Council Neurochemical Pathology Unit, Newcastle General Hospital, Newcastle-upon-Tyne, NE4

6BE, UK
SOURCE: Phytotherapy Research (1999), 13(1), 59-64
CODEN: PHYREH; ISSN: 0951-418X
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Amongst the many different therapeutic applications of ginseng are beneficial effects on age-related cognitive impairments. Aging in the brain is assocd. with a loss of nicotinic receptor binding and receptor stimulation increases binding. Stimulation of the CNS (central nervous system) nicotinic receptor is considered to be beneficial in relation to symptomatic treatment and neuroprotection in age-assocd. cognitive disorders which involve a further receptor loss. The authors assessed Panax ginseng, Panax quinquefolium and several chem. constituents of these plants for nicotinic activity based on displacement of 3H-(-)nicotine from human brain cerebral cortex membranes in vitro. Dose-dependent displacement was evident in crude ethanol exts. of Panax ginseng and Panax quinquefolium. Assay of an ext. of Panax ginseng showed the plant to have affinity for both the nicotinic receptor, and to a lesser extent the muscarinic receptor (IC50 2.12 mg/mL and 5.25 mg/mL resp.). Activity was largely conserved after the extn. of choline and other water sol. quaternary ammonium compds. (QAC), indicating that the activity of the plant exts. was not due to choline. Displacement binding assay of some purified chem. constituents, including a no. of ginsenosides, showed that these were not primarily responsible for Panax activity. The active chem. constituent has yet to be identified, but the demonstrated nicotinic activity of ginseng warrants further investigation with ref. to therapeutic activity in age-related conditions such as dementia.

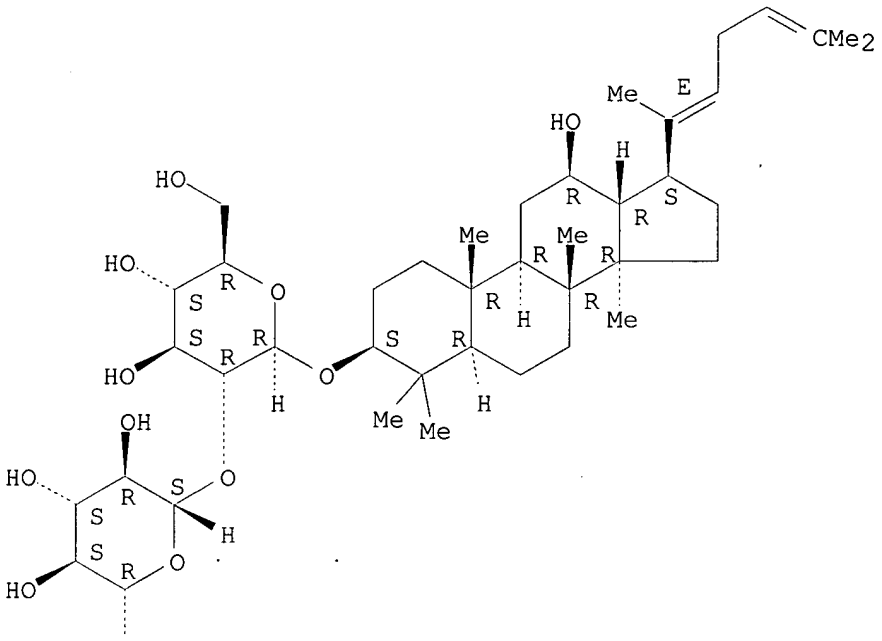
IT **186763-78-0**, Ginsenoside Rg5
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ginseng constituents nicotinic activity in human cerebral cortex in vitro in relation to therapeutic effects in age-related cognitive impairments)

RN 186763-78-0 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

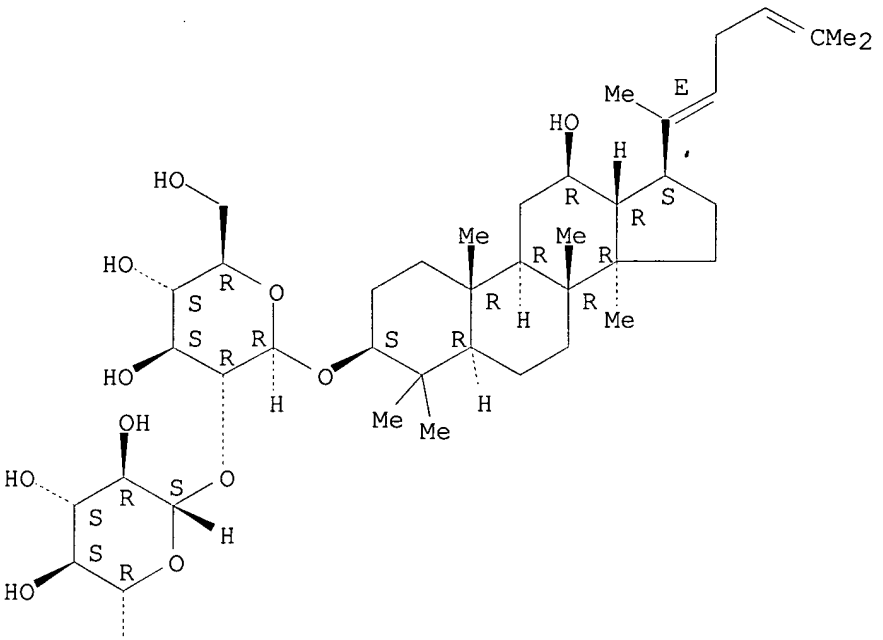
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 13 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:628673 CAPLUS
DOCUMENT NUMBER: 129:298325
TITLE: Ginsenosides Rb1 and Rg3 protect cultured rat cortical cells from glutamate-induced neurodegeneration. [Erratum to document cited in CA129:225620]
AUTHOR(S): Kim, Young C.; Kim, So R.; Markelonis, George J.; Oh, Tae H.
CORPORATE SOURCE: College of Pharmacy, Seoul National University, Seoul, S. Korea
SOURCE: Journal of Neuroscience Research (1998), 54(1), 123
CODEN: JNREDK; ISSN: 0360-4012
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB On page 427, under the heading Assessment of Neurotoxicity in the Materials and Methods section, the formula given for the assessment of percentage cell viability was incorrect. The formula is correctly stated in a footnote to Table I on page 429. The correct formula is as follows: 100 .times. (OD of glutamate + ginsenoside-treated - OD of glutamate-treated)/(OD of control - OD of glutamate-treated).

IT **186763-78-0**, Ginsenoside Rg5
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ginsenosides Rb1 and Rg3 protect cultured rat cortical cells from glutamate-induced neurodegeneration (Erratum))
RN 186763-78-0 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

L39 ANSWER 14 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:503283 CAPLUS
DOCUMENT NUMBER: 129:225620
TITLE: Ginsenosides Rb1 and Rg3 protect cultured rat cortical cells from glutamate-induced neurodegeneration
AUTHOR(S): Kim, Young C.; Kim, So R.; Markelonis, George J.; Oh, Tae H.
CORPORATE SOURCE: College of Pharmacy, Seoul National University, Seoul, S. Korea
SOURCE: Journal of Neuroscience Research (1998), 53(4), 426-432
CODEN: JNREDK; ISSN: 0360-4012
PUBLISHER: Wiley-Liss, Inc.

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Certain natural products and Asian herbal remedies have been used in Asia to attenuate neurodegenerative diseases, including senile dementia. We have examd. derivs. of several natural products for potential neuroprotective activity in an in vitro test system. In the present study, we assayed a no. of compds. that were isolated from Panzax ginseng C.A. Meyer (Araliaceae) for an ability to protect rat cortical cell cultures from the deleterious effects of the neurotoxicant, glutamate. We found that ginsenosides Rb1 and Rg3 significantly attenuated glutamate-induced neurotoxicity. Brief exposure of cultures to excess glutamate caused extensive neuronal death. Glutamate-induced neuronal cell damage was reduced significantly by pretreatment with Rb1 and Rg3. Ginsenosides Rb1 and Rg3 inhibited the overprodn. of nitric oxide, which routinely follows glutamate neurotoxicity, and preserved the level of superoxide dismutase in glutamate-treated cells. Furthermore, in cultures treated with glutamate, these ginsenosides inhibited the formation of malondialdehyde, a compd. that is produced during lipid peroxidn., and diminished the influx of calcium. These results show that ginsenosides Rb1, and Rg3 exerted significant neuroprotective effects on cultured cortical cells. Therefore, these compds. may be efficacious in protecting neurons from oxidative damage that is produced by exposure to excess glutamate.

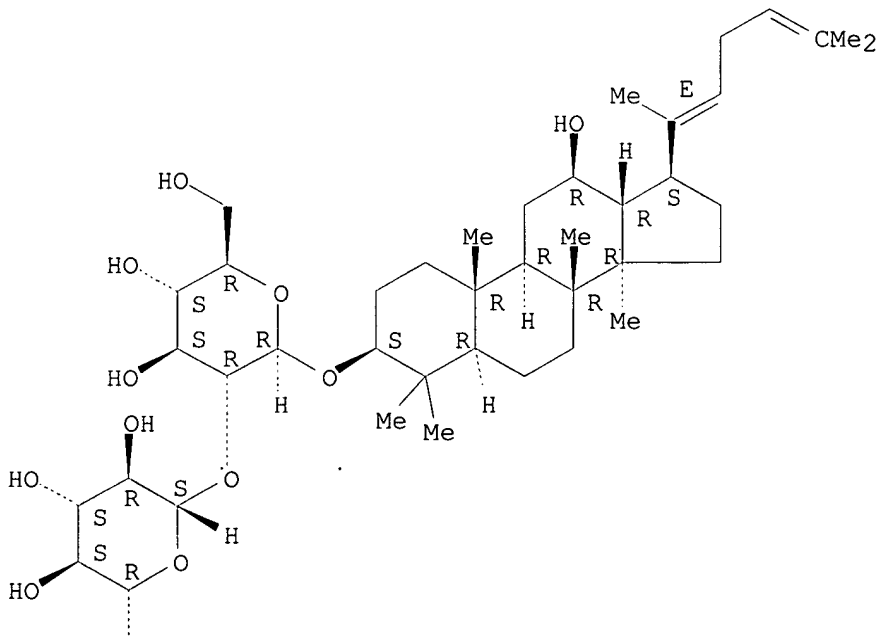
IT **186763-78-0**, Ginsenoside Rg5
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ginsenosides Rb1 and Rg3 protect cultured rat cortical cells from glutamate-induced neurodegeneration)

RN 186763-78-0 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

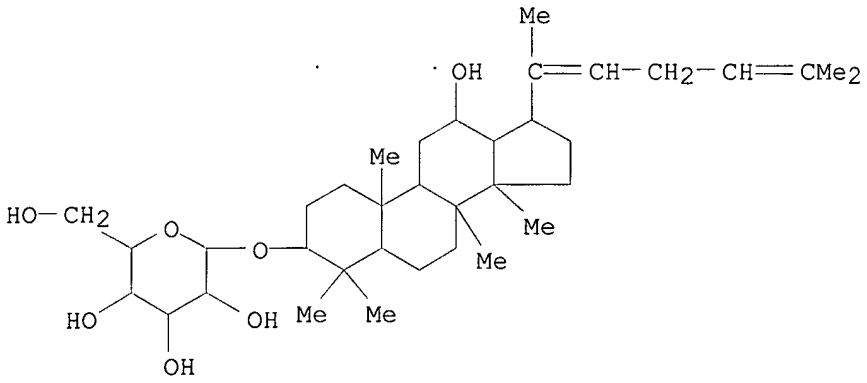
L39 ANSWER 15 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:331287 CAPLUS
DOCUMENT NUMBER: 129:76131
TITLE: Ginsenoside Rh2 and Rh3 induce differentiation of HL-60 cells into granulocytes: modulation of protein kinase C isoforms during differentiation by ginsenoside Rh2
AUTHOR(S): Kim, Young Sook; Kim, Dong Seon; Kim, Shin Il
CORPORATE SOURCE: Korea Ginseng and Tobacco Research Institute, Taejon, 305-345, S. Korea
SOURCE: International Journal of Biochemistry & Cell Biology (1998), 30(3), 327-338
CODEN: IJBBFU; ISSN: 1357-2725
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Ginsenoside Rh1 or Rh2 differentiated B16 melanoma or F9 teratocarcinoma to phenotypic normal melanocyte-like cells or parietal endoderm-like cells. Ginsenoside Rh3 and Rh4 were recently isolated from Panax ginseng, but their biochem. and pharmacol. effects remain unidentified. The present study investigated whether the ginsenoside Rh group (G-Rh1, -Rh2, -Rh3 and -Rh4) having similar structures induce differentiation of HL-60 cells and whether protein kinase C (PKC) is involved in differentiation by ginsenoside. Differentiation was assessed by Wright-Giemsa stain and nitroblue tetrazolium redn. G-Rh2 and G-Rh3 induced differentiation of HL-60 cells into morphol. and functionally granulocytes but G-Rh1 and G-Rh4 did not. G-Rh2 and G-Rh3 arrested the cell cycle at the G1/S phase, consistent with the ability to induce differentiation in a decreasing order of retinoic acid > G-Rh2 > G-Rh3. During differentiation by G-Rh2, Ca2+/phospholipid-dependent PKC activity was increased in both the cytosol and total cell ext. and Ca2+/phospholipid-dependent phosphorylation of 38 and 200 kDa endogenous proteins increased, while phosphorylation of 60, 64, 66 and 97 kDa proteins was Ca2+/phospholipid-independent. When cytosolic PKC isoforms were analyzed by immunoblotting, no significant change was obsd. in the .alpha. level, however, the immunoreactive 60 kDa band of a similar mass to the PKC catalytic fragment appeared following treatment with G-Rh2. The .beta. isoform was gradually increased with prolonged treatment. The .gamma. isoform was not detected in the cytosol of untreated cells, whereas a small amt. was detected 5 days after treatment. It is concluded that G-Rh2 and G-Rh3 can induce differentiation of HL-60 cells into granulocytes and modulation of PKC isoform levels may contribute to differentiation of HL-60 cells by G-Rh2.

IT **105558-26-7**, Ginsenoside Rh3
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(ginsenosides induce differentiation of HL-60 cells into granulocytes via modulation of protein kinase C isoforms)

RN 105558-26-7 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-

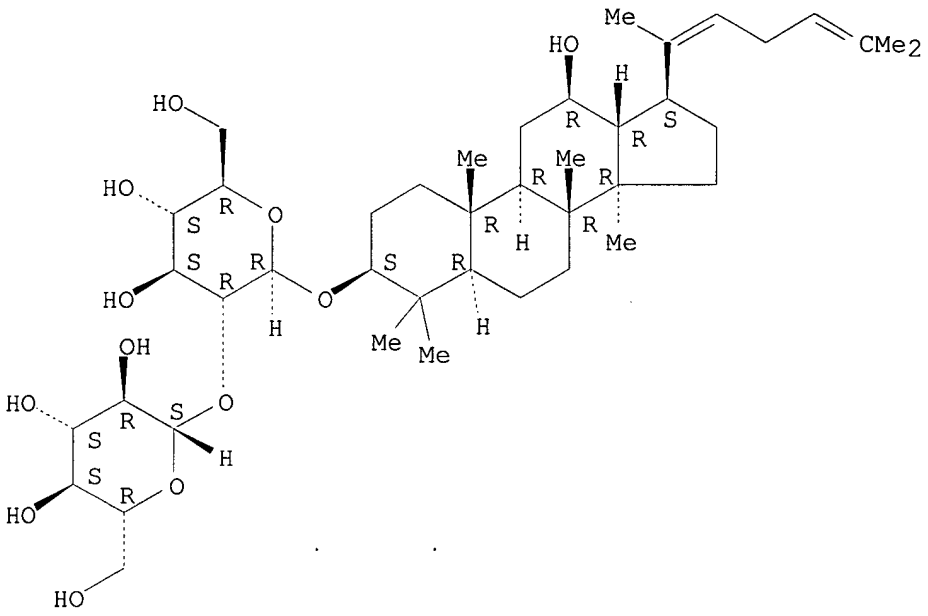
20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 16 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:75573 CAPLUS
DOCUMENT NUMBER: 128:213344
TITLE: Platelet activating factor antagonist activity of ginsenosides
AUTHOR(S): Jung, Keun Young; Kim, Dong Seon; Oh, Sei Ryang; Lee, Im Seon; Lee, Jung Joon; Park, Jong Dae; Kim, Shin, II; Lee, Hyeong-Kyu
CORPORATE SOURCE: Natural Product Biosynthesis Research Unit, Korea Research Institute of Bioscience and Biotechnology, Taejon, 305-600, S. Korea
SOURCE: Biological & Pharmaceutical Bulletin (1998), 21(1), 79-80
CODEN: BPBLEO; ISSN: 0918-6158
PUBLISHER: Pharmaceutical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ginseng saponins and their degrdn. products have been screened for antagonist activity towards [3H]PAF (platelet activating factor) in washed rabbit platelet receptor binding studies. 20(S)- and .DELTA.20-ginsenosides Rg3, protopanaxadiol-type saponins, were relatively potent PAF antagonists (IC50=4.9.times.10-5M and 9.2.times.10-5M, resp.).
IT **74964-14-0**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(platelet activating factor receptor antagonist activity of ginsenosides)
RN 74964-14-0 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

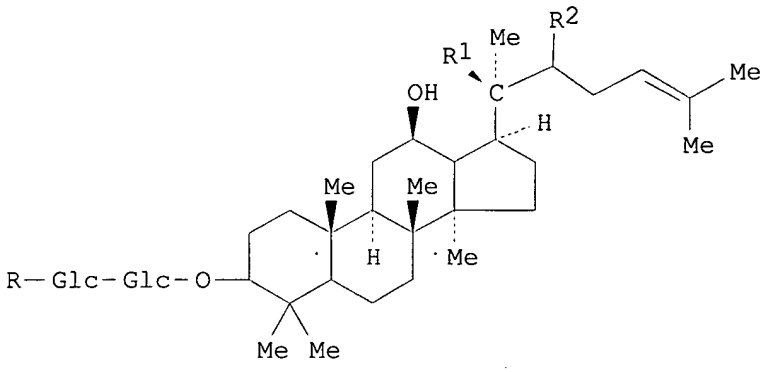


L39 ANSWER 17 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:617930 CAPLUS
DOCUMENT NUMBER: 127:248361
TITLE: Preparation of ginseng saponin oligosaccharides as antitumors
INVENTOR(S): Park, Man Ki; Lee, Seung Ki; Park, Jeong Hill; Kim, Jong Moon; Lee, Kwang Youl; Han, Sang Beom
PATENT ASSIGNEE(S): Cheil Je Dang Co., S. Korea; Park, Man Ki; Lee, Seung Ki; Park, Jeong Hill; Kim, Jong Moon; Lee, Kwang Youl; Han, Sang Beom
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9731933	A1	19970904	WO 1996-KR123	19960729
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9665334	A1	19970916	AU 1996-65334	19960729

PRIORITY APPLN. INFO.: KR 1996-4879 19960227
WO 1996-KR123 19960729

GI



I

AB Title ginseng saponin oligosaccharides I (R = Ac, R1= OH, R2 = H; R = Ac, R1R2 = bond) were prepd. by acetylation of I (R = H, R1= OH, R2 = H; R = H, R1R2 = bond) with acetyl chloride in presence of 2,4,6-collidine under reduce pressure. I (R = Ac, R1= OH, R2 = H; R = Ac, R1R2 = bond) were tested for their antitumor activity and significantly inhibit the growth of hepatoma sk-Hep-1 cells (concn. of I = 0.01-10 .mu.M).

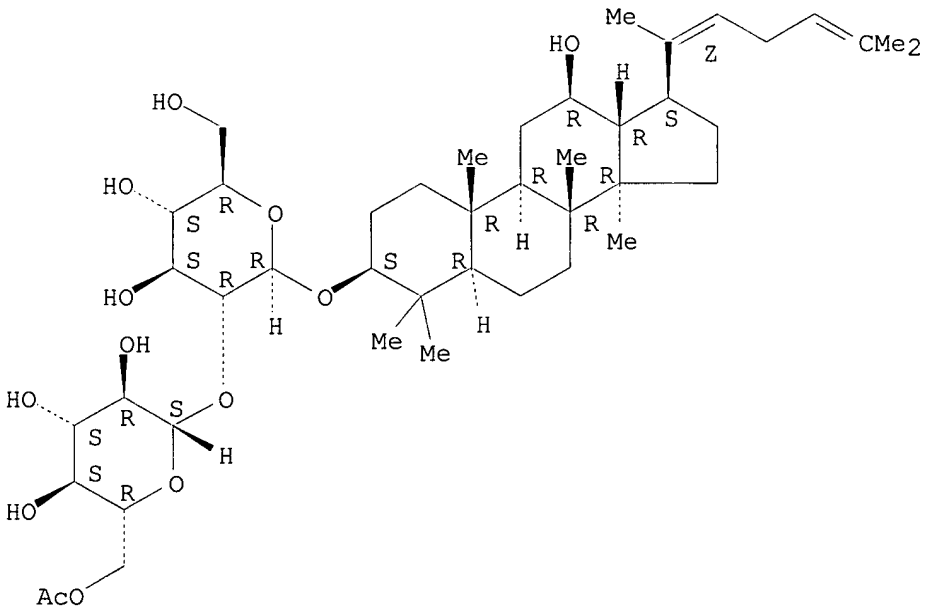
IT **195711-64-9P**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of ginseng saponin oligosaccharides as antitumors)

RN 195711-64-9 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-(6-O-acetyl-.beta.-D-glucopyranosyl)- (9CI) (CA INDEX NAME)

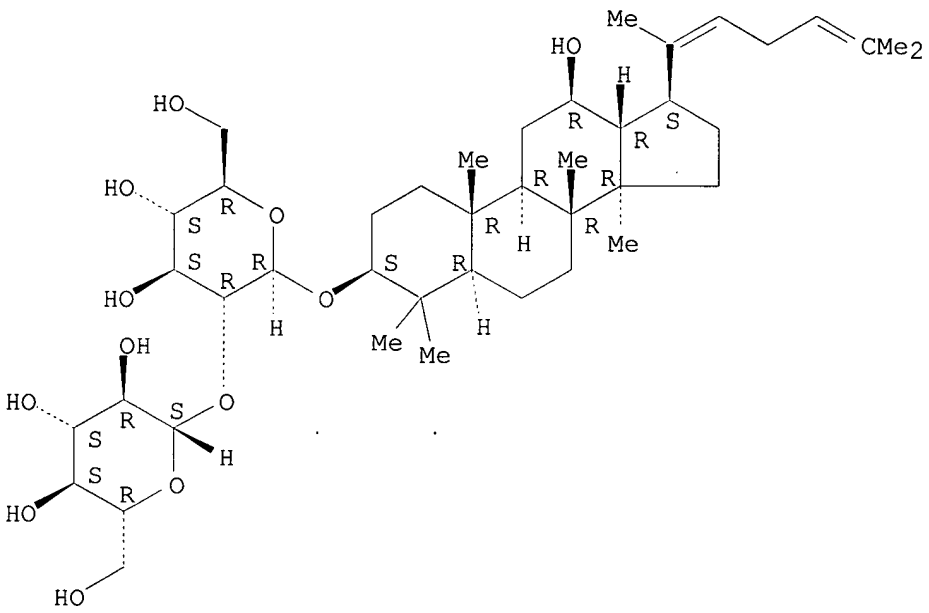
Absolute stereochemistry.
Double bond geometry as shown.



IT **74964-14-0**

RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of ginseng saponin oligosaccharides as antitumors)
RN 74964-14-0 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



L39 ANSWER 18 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:307396 CAPLUS
DOCUMENT NUMBER: 126:325076
TITLE: Ginsenoside-Rg5 suppresses cyclin E-dependent protein kinase activity via up-regulating p21Cip/WAF1 and down-regulating cyclin E in SK-HEP-1 cells
AUTHOR(S): Lee, Kwang Youl; Lee, You Hui; Kim, Shin Il; Park, Jeong Hill; Lee, Seung Ki
CORPORATE SOURCE: College of Pharmacy, Seoul National University, Seoul, 151-742, S. Korea
SOURCE: Anticancer Research (1997), 17(2A), 1067-1072
CODEN: ANTRD4; ISSN: 0250-7005
PUBLISHER: Anticancer Research
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In the present study, we report that ginsenoside-Rg5 (G-Rg5), a newly discovered diol-contg. ginsenoside, blocks the cell cycle of human hepatoma SK-HEP-1 cells via the down-regulation of cyclin E-dependent kinase activity. The results from flow cytometric analyses show that G-Rg5 arrests the cell cycle of SK-HEP-1 cells at the G1/S transition phase. The cyclin E-dependent kinase activity that has been immunopptd. with cyclin E-specific antibody is down-regulated in response to G-Rg5. The results from immunoblottings show that the down-regulation of cyclin E-dependent kinase activity is related to increased protein levels of p21Cip/WAF1 and to decreased protein levels of cyclin E, CDK2, and CDC25A. Collectively, these data suggest that G-Rg5 blocks cell cycle of SK-HEP-1 cells at the G1/S transition phase by down-regulating cyclin E-dependent

kinase activity and that the down-regulation of cyclin E-dependent kinase activity is caused mainly by induced CDK2 inhibitor, p21Cip/WAF1 and decreased levels of cyclin E.

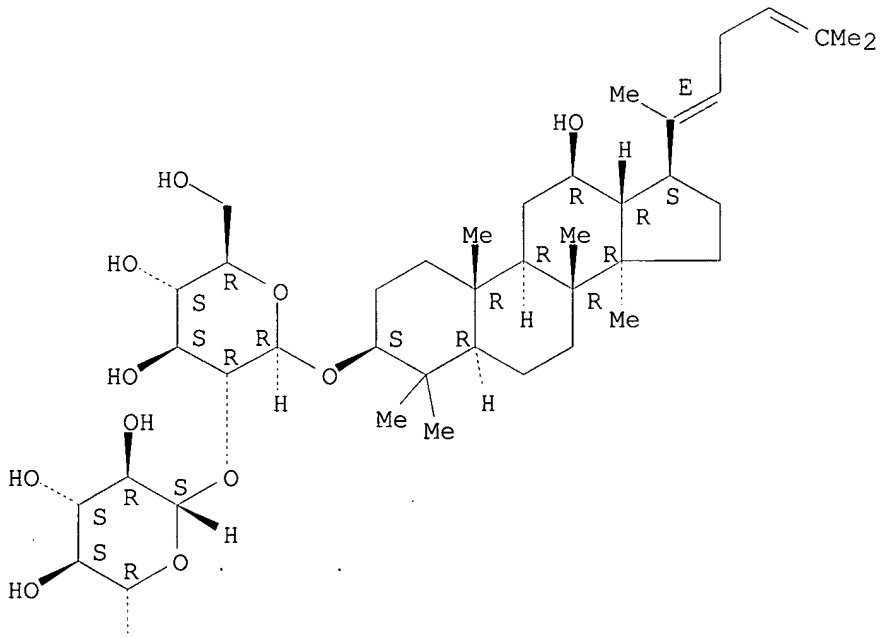
IT **186763-78-0**, Ginsenoside-Rg5
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ginsenoside-Rg5 suppresses cyclin E-dependent protein kinase activity via up-regulating p21Cip/WAF1 and down-regulating cyclin E in SK-HEP-1 cells)

RN 186763-78-0 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

L39 ANSWER 19 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:63985 CAPLUS
DOCUMENT NUMBER: 126:142031
TITLE: Ginsenoside Rg5, a genuine dammarane glycoside from Korean red ginseng
AUTHOR(S): Kim, Shin Ii; Park, Jeong Hill; Ryu, Jae-Ha; Park, Jong Dae; Lee, You Hui; Park, Jae-Hyun; Kim, Tae-Hee;

Kim, Jong Moon; Baek, Nam-In
CORPORATE SOURCE: Korea Ginseng and Tobacco Research Institute, Taejeon, 305-345, S. Korea
SOURCE: Archives of Pharmacal Research (1996), 19(6), 551-553
CODEN: APHRDQ; ISSN: 0253-6269
PUBLISHER: Pharmaceutical Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A genuine dammarane glycoside, named ginsenoside Rg5, has been isolated by repeated column chromatog. and preparative HPLC from the MeOH ext. of Korean red ginseng (Panax ginseng C.A. Meyer). The chem. structure of ginsenoside Rg5 was detd. as 3-O-[.beta.-D-glucopyranosyl (1.fwdarw.2)-.beta.-D-glucopyranosyl] dammar-20(22),24-diene-3.beta.,12.beta.-diol by spectral and chem. methods. The stereostructure of a double bond at C-20(22) of ginsenoside Rg5 was characterized as (E) from the chem. shift of C-21 in the 13C-NMR and a NOESY expt. in the 1H-NMR.

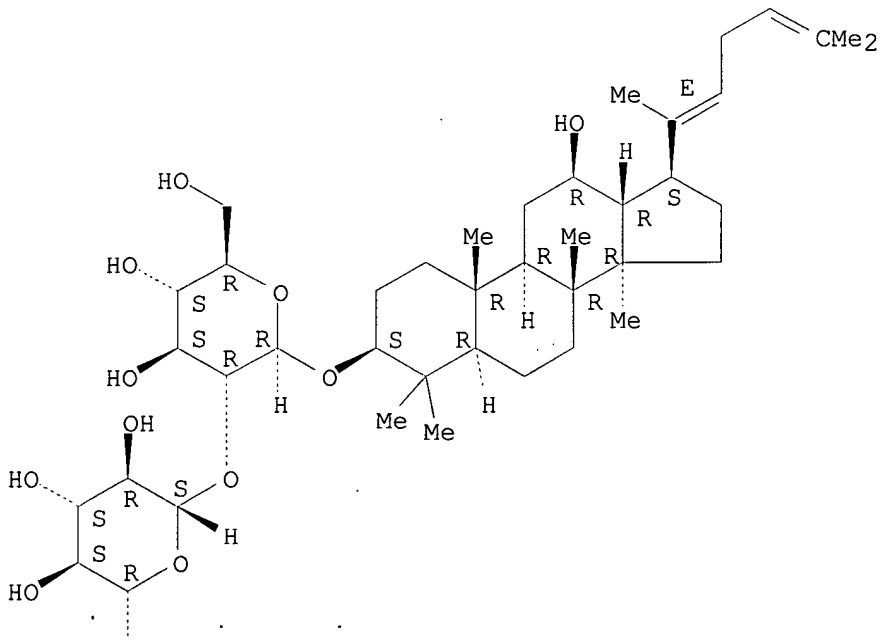
IT **186763-78-0P**, Ginsenoside Rg5
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(Ginsenoside Rg5, a genuine dammarane glycoside from Korean red ginseng)

RN 186763-78-0 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

PAGE 1-A

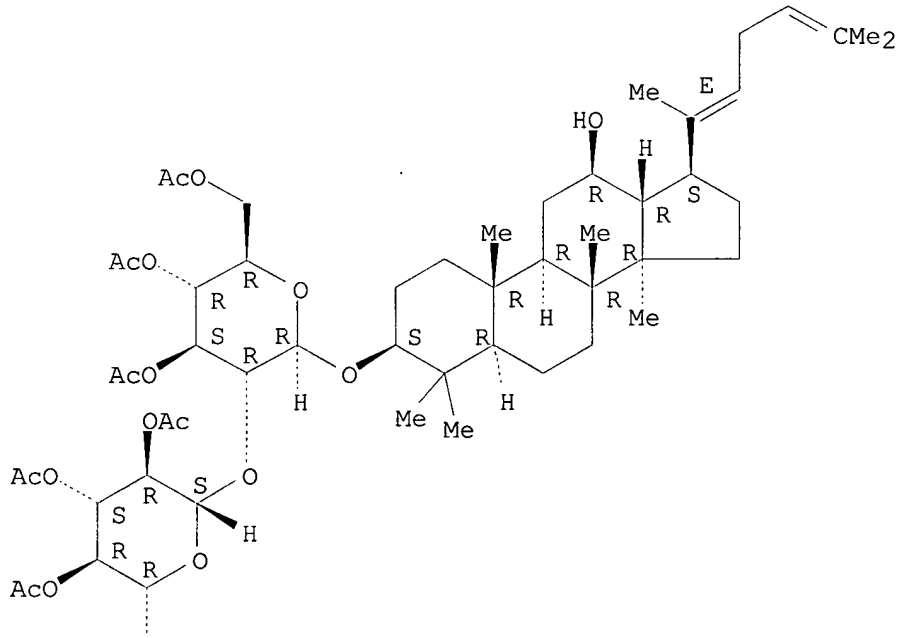


PAGE 2-A

IT **186752-35-2P**, Ginsenoside Rg5 heptaacetate
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and properties of)
RN 186752-35-2 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-glucopyranosyl)-, 3,4,6-triacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 2-A

L39 ANSWER 20 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:41808 CAPLUS
DOCUMENT NUMBER: 126:79904
TITLE: Anticancer sapogenin extraction from ginseng and pharmaceutical compositions containing the sapogenin
INVENTOR(S): Hasegawa, Hideo; Sei, Shokan; Matsumya, Tomoyuki;

Uchama, Masamori
PATENT ASSIGNEE(S): Hatsupii Waarudo Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08291194	A2	19961105	JP 1995-115321	19950418

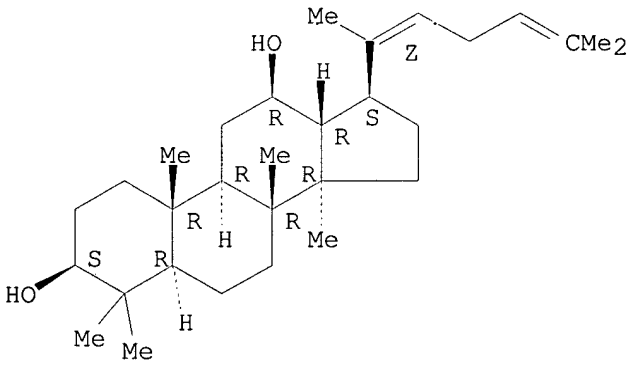
PRIORITY APPLN. INFO.: JP 1995-115321 19950418

AB Extn. of anticancer sapogenins, quasipanaxadiol and quasipanaxatriol, from ginseng and pharmaceutical compns. contg. the sapogenin are claimed. Tablets were formulated contg. quasipanaxadiol 30 mg and lactose, cryst. cellulose and magnesium stearate (200 mg/tablet). Both sapogenins inhibited the growth of leukemia cell P388 in cultures.

IT **166241-40-3P**, Quasipanaxadiol **171903-78-9P**, Quasipanaxatriol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anticancer sapogenin extn. from ginseng and pharmaceutical compns. contg. the sapogenin)

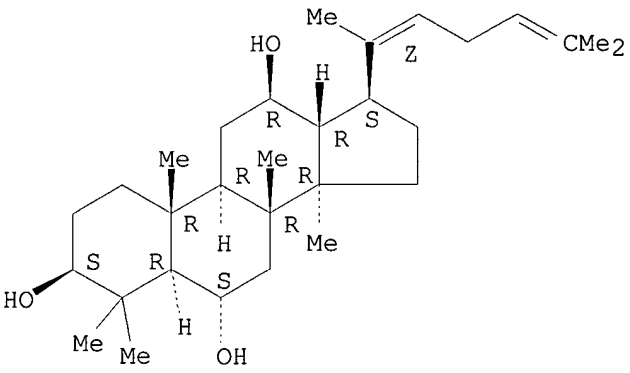
RN 166241-40-3 CAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3.beta.,12.beta.,20Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 171903-78-9 CAPLUS
CN Dammara-20(22),24-diene-3,6,12-triol, (3.beta.,6.alpha.,12.beta.,20Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

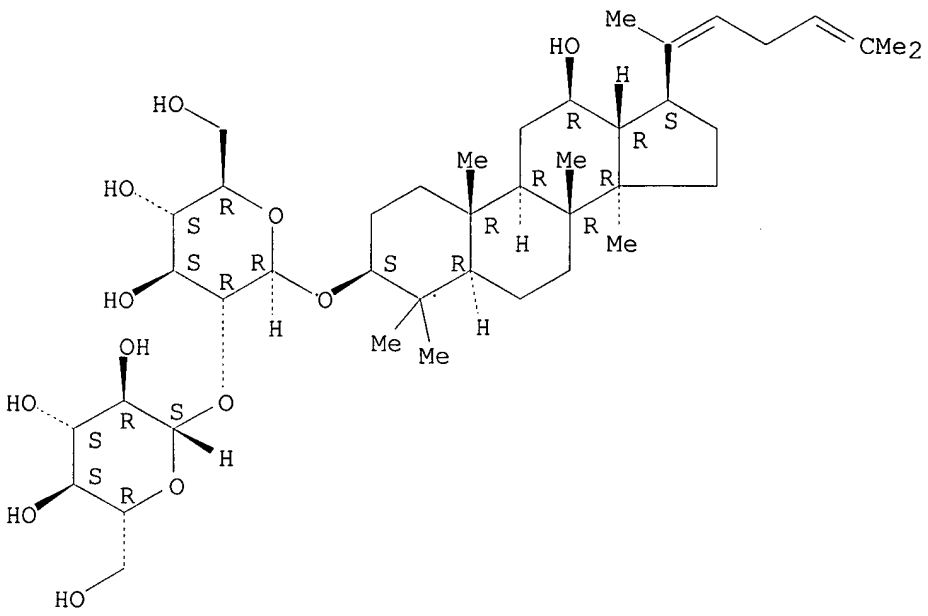


L39 ANSWER 21 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:431012 CAPLUS
DOCUMENT NUMBER: 125:157877
TITLE: Effects of ginseng saponin on modulation of multidrug resistance
AUTHOR(S): Park, Jong-Dae; Kim, Dong-Sun; Kwon, Hyeok-Young; Son, Sang-Kwon; Lee, You-Hui; Baek, Nam-In; Kim, Shin-Il; Rhee, Dong-Kwon
CORPORATE SOURCE: Korea Ginseng & Tobacco Research Institute, Taejon, 305-345, S. Korea
SOURCE: Archives of Pharmacal Research (1996), 19(3), 213-218
CODEN: APHRDQ; ISSN: 0253-6269
PUBLISHER: Pharmaceutical Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Multidrug resistance (MDR) has been a major problem in cancer chemotherapy. To overcome this problem, the authors prepd. minor ginsenosides stereoselectively from ginseng saponins and searched for a ginseng component which is effective for inhibition of MDR. MDR inhibition activity was detd. by measuring cytotoxicity to MDR cells using multidrug resistant human fibrocarcinoma KB V20C, which is resistant to 20 nM vincristine and expresses high level of mdr1 gene. Of several ginseng components, 20(S)-ginsenoside Rg3, a red ginseng saponin, was found to have the most potent inhibitory activity on MDR and it's concn. capable of inhibiting 50% growth was 82 .mu.M.

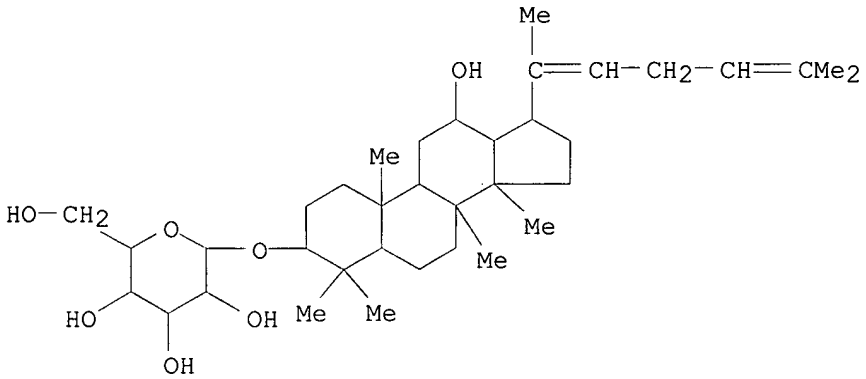
IT **74964-14-0P**, Ginsenoside Rg31
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)
RN 74964-14-0 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



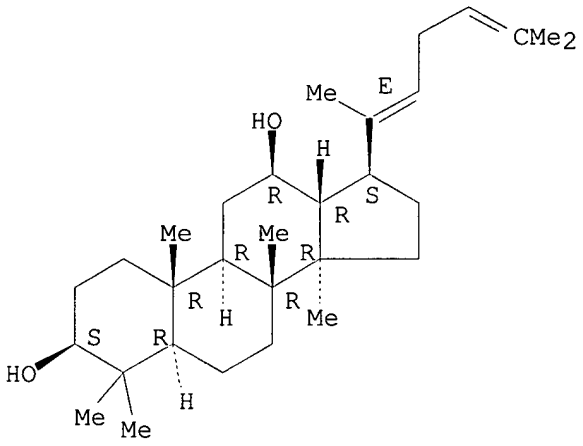
IT **105558-26-7**, Ginsenoside Rh3 **166241-39-0**, Quasiprotopanxadiol **174688-80-3**, Quasiprotopanaxatriol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effects of ginseng saponins on modulation of multidrug resistance in human cancer cells cytotoxicity to vincristine)

RN 105558-26-7 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



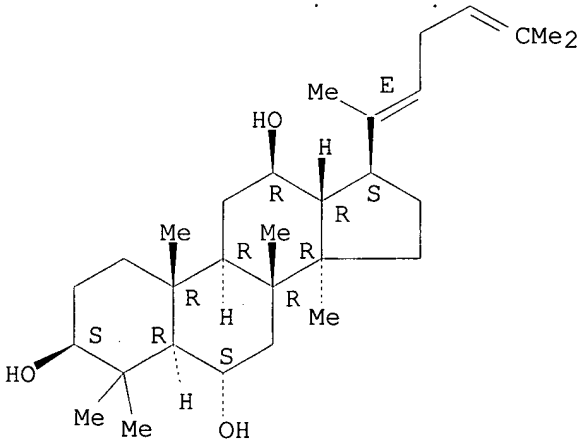
RN 166241-39-0 CAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3.beta.,12.beta.,20E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 174688-80-3 CAPLUS
CN Dammara-20(22),24-diene-3,6,12-triol, (3.beta.,6.alpha.,12.beta.,20E)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

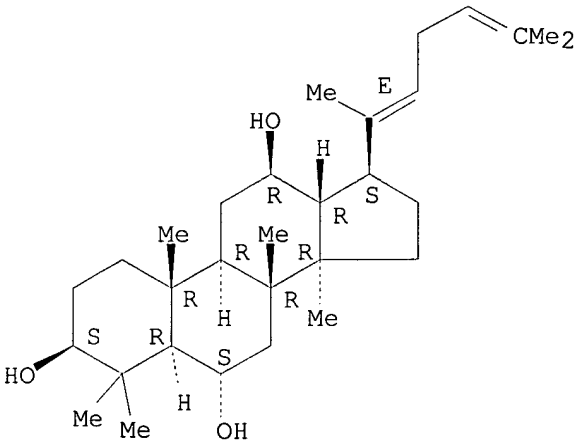


L39 ANSWER 22 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:171497 CAPLUS
DOCUMENT NUMBER: 124:226602
TITLE: Ginsenoside Rh4, a genuine dammarane glycoside from Korean red ginseng
AUTHOR(S): Baek, Nam-In; Kim, Dong Seon; Lee, You Hui; Park, Jong Dae; Lee, Chun Bae; Kim, Shin Il
CORPORATE SOURCE: Korea Ginseng & Tobacco Research Inst., Taejeon, 305-345, S. Korea
SOURCE: Planta Medica (1996), 62(1), 86-7
CODEN: PLMEAA; ISSN: 0032-0943
PUBLISHER: Thieme
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A genuine glycoside, named ginsenoside Rh4, was isolated from Korean red ginseng (Panax ginseng C. A. Meyer) through repeated column chromatog.,

and its chem. structure was established to be 6-O-.beta.-D-glucopyranosyldammar-20(22),24-diene-3.beta.,6.alpha.,12.beta.-triol by spectral and chem. methods. The stereochem. of a double bond at C-20(22) of ginsenoside Rh4 was characterized as (E) from a NOESY expt. in the 1H-NMR of the aglycon. Cyclotoxic activities of ginsenoside Rh4 and its aglycon against cancer cell lines were evaluated by use of the SRB method.

IT **174688-80-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 174688-80-3 CAPLUS
CN Dammara-20(22),24-diene-3,6,12-triol, (3.beta.,6.alpha.,12.beta.,20E)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L39 ANSWER 23 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:927313 CAPLUS
DOCUMENT NUMBER: 124:44955
TITLE: Reversal of daunomycin and vinblastine resistance in multidrug-resistant P388 Leukemia in vitro through enhanced cytotoxicity by triterpenoids
AUTHOR(S): Hasegawa, Hideo; Sung, Jong-Hwan; Matsumiya, Satoshi; Uchiyama, Masamori; Inouye, Yoshio; Kasai, Ryoji; Yamasaki, Kazuo
CORPORATE SOURCE: Itto Institute of Life Science Research, Happy World Inc., Tokyo, 183, Japan
SOURCE: Planta Medica (1995), 61(5), 409-1
CODEN: PLMEAA; ISSN: 0032-0943
PUBLISHER: Thieme
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Examd. in vitro were the effects of some triterpenoids from Panax (Araliaceae) and Glycyrrhiza (Leguminosae) spp. on the sensitivity to daunomycin (DAU) and vinblastine (VBL) of adriamycin (ADM)-resistant P388 leukemia cells (P388/ADM), which were resistant to multiple anticancer drugs. Quasipanaxatriol, 20(S)-protopanaxatriol, ginsenoside Rh2, and compd. K greatly enhanced the cytotoxicity of the anticancer drugs in P388/ADM cells. The extent of enhancement was different among the triterpene compds.; the 4- to 46-fold increase in DAU cytotoxicity was obsd. in P388/ADM cells in the presence of non-toxic or marginally toxic concns. of individual compds., while those for VBL were in the ratios of

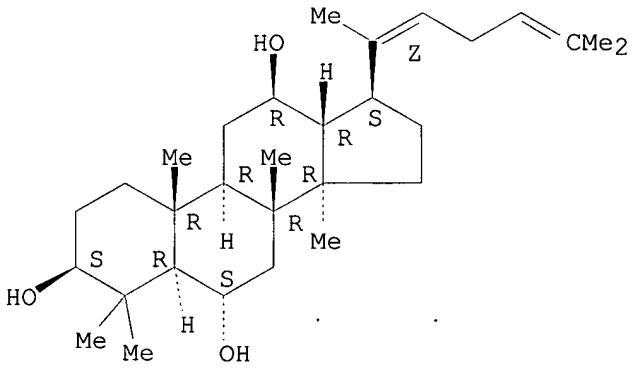
2- to 27-fold. The max. increase in cytotoxicity was obsd. with 50 .mu.m quasipanaxatriol; the resistance indexes defined to be the ratios of the IC50 values for P388/ADM and P388 parental cells decreased from 79 to 1.7 and from 180 to 4.9 in the cases of DAU and VBL, resp. The reversal of DAU resistance in P388/ADM by quasipanaxatriol could be explained by the effective accumulation of the drugs mediated by the DAU-efflux blockage.

IT **171903-78-9**, Quasipanaxatriol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(reversal of daunomycin and vinblastine resistance in multidrug-resistant P388 leukemia in vitro through enhanced cytotoxicity by triterpenoids)

RN 171903-78-9 CAPLUS

CN Dammara-20(22),24-diene-3,6,12-triol, (3.beta.,6.alpha.,12.beta.,20Z)-(9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



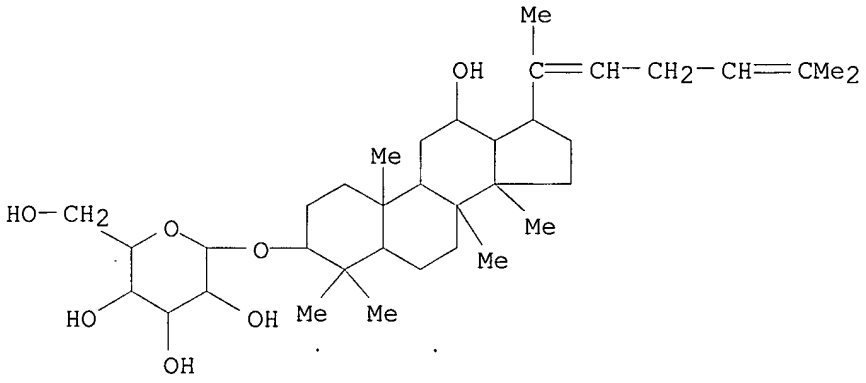
L39 ANSWER 24 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:712730 CAPLUS
DOCUMENT NUMBER: 123:122844
TITLE: Preparation and structure determination of a new glycoside, (20E)-ginsenoside Rh3, and its isomer from diol-type ginseng saponins
AUTHOR(S): Kim, Dong Seon; Baek, Nam In; Park, Jong Dae; Lee, You Hui; Jeong, So Young; Lee, Chun Bae; Kim, Shin Il
CORPORATE SOURCE: College Natural Sciences, Chung Nam National University, Taejeon, 305-764, S. Korea
SOURCE: Yakhak Hoechi (1995), 39(1), 85-93
CODEN: YAHOA3; ISSN: 0513-4234
PUBLISHER: Pharmaceutical Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: Korean

AB Acidic and alk. hydrolysis of diol-type ginseng saponins produced a new glycoside, (20E)-ginsenoside Rh3, and its stereoisomer (20Z), which were further subjected to alk. hydrolysis to give their aglycons, (20E)- and (20Z)-3.beta.,12.beta.-dihydroxydammar-20(22),24-diene. The ratio of stereoisomeric mixts. was estd. to be .apprx.5:1 from intensities of the peaks in 1H-and 13C-NMR spectra. The 1H- and 13C-NMR signals of ginsenoside Rh3, which have remained unclarified, were completely assigned by the extensive application of modern NMR techniques.

IT **105558-26-7P**, Ginsenoside Rh3 **166040-90-0P** **166241-39-0P** **166241-40-3P**
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)

(prepn. and structure detn. of ginsenoside Rh3 isomers from diol-type ginseng saponins)

RN 105558-26-7 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)

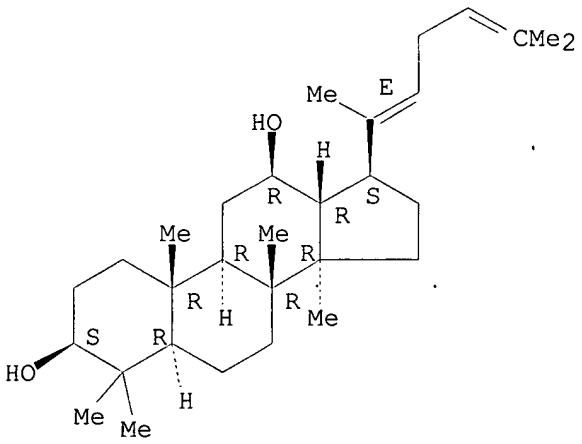


RN 166040-90-0 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20E)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

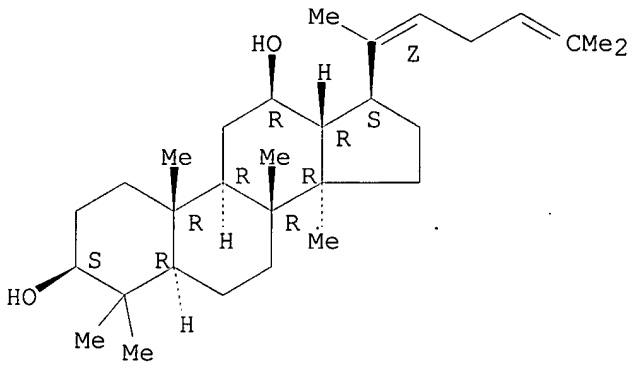
RN 166241-39-0 CAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3.beta.,12.beta.,20E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

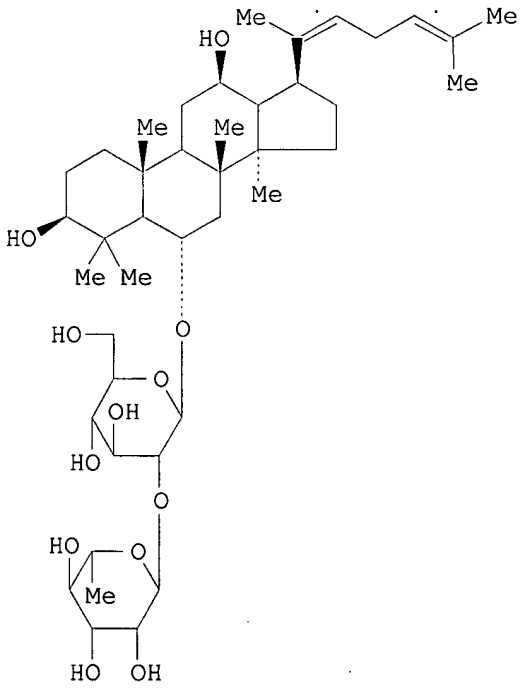


RN 166241-40-3 CAPLUS
CN Dammara-20(22),24-diene-3,12-diol, (3.beta.,12.beta.,20Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L39 ANSWER 25 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:627962 CAPLUS
DOCUMENT NUMBER: 113:227962
TITLE: A new minor saponin from the leaves of Panax ginseng
AUTHOR(S): Zhang, Shaolin; Takeda, Tadahiro; Zhu, Tinru; Chen, Yingjie; Yao, Xinsheng; Tanaka, Osamu; Ogihara, Yukio
CORPORATE SOURCE: Dep. Phytochem., Shenyang Coll. Pharm., Peop. Rep. China
SOURCE: Planta Medica (1990), 56(3), 298-300
CODEN: PLMEAA; ISSN: 0032-0943
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



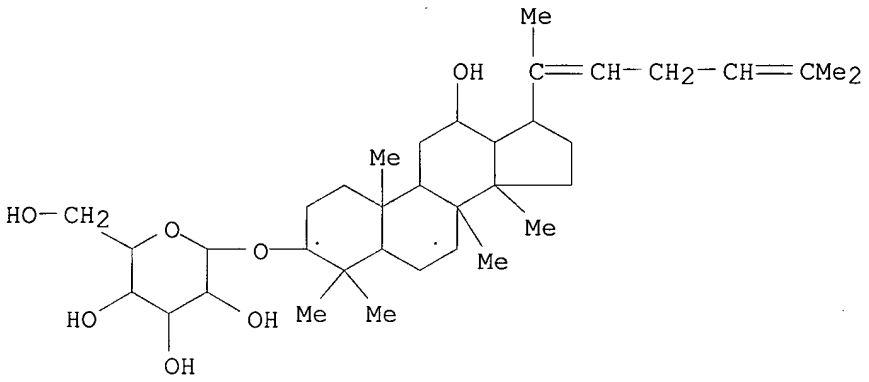
I

AB Seventeen compds. were isolated from the leaves of P. ginseng. Among them, a new minor saponin was established as ginsenoside F4 (I). Fourteen compds. were identified as 20(R)-protopanaxadiol, 20(R)-protopanaxatriol, ginsenoside-Rh3, 20(R)-ginsenoside-Rh2, 20(S)-ginsenoside-Rh2, ginsenoside-Rh1, -Rg3, -Rg2, Rg1, -Re, -Rd, -Rc, -Rb2, -Rb1; the others are still under investigation.

IT **105558-26-7**, Ginsenoside Rh3
RL: BIOL (Biological study)
(from Panax ginseng)

RN 105558-26-7 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L39 ANSWER 26 OF 34 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1988:631403 CAPLUS

DOCUMENT NUMBER: 109:231403

TITLE: Semisynthetic anlogs of ginsenosides, glycosides from ginseng

AUTHOR(S): Atopkina, L. N.; Denisenko, V. A.; Uvarova, N. I.; Elyakov, G. B.

CORPORATE SOURCE: Pac. Inst. Bioorg. Chem., Vladivostok, USSR

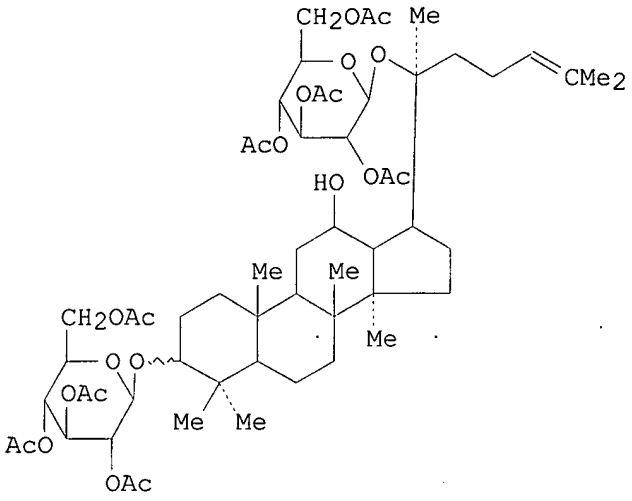
SOURCE: Carbohydrate Research (1988), 177, 101-9
CODEN: CRBRAT; ISSN: 0008-6215

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 109:231403

GI



II

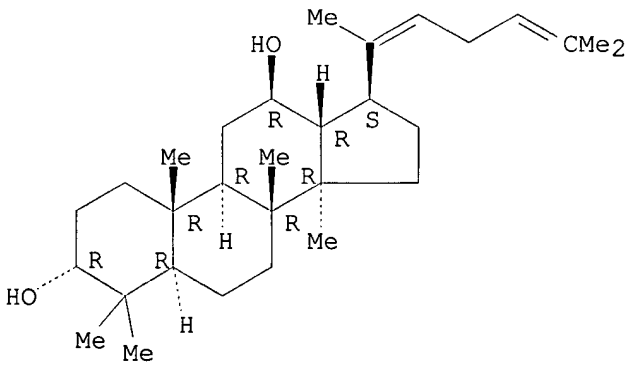
AB Glycosylation of dammar-24-ene-3,12.beta.,20(S)-triols with 2,3,4,6-tetra-O-acetyl-.alpha.-D-glucopyranosyl bromide (I) in the presence of silver oxide in dichloromethane gives a mixt. of the acetylated 3-, 12-, 20-, 3,12-di-, and 3,20-di-O-.beta.-D-glucopyranosyl derivs., e.g., II, in a total yield of 83-84.5%. Under similar conditions, the 3-O-acetyl derivs. of dammar-24-ene-3,12.beta.,20(S)-triols give a mixt. of 12- and 20-O-.beta.-D-glucopyranosyl derivs. Condensation of betulafolienetriol both with I in the presence of Hg(CN)2 in MeNO2 and with 3,4,6-tri-O-acetyl-.beta.-D-glucopyranose 1,2-(tert-Bu orthoacetate) in the presence of 2,4,6-trimethylpyridinium perchlorate in PhCl under azeotropic distn. results in dehydration and 20-dehydroxyglucosides are formed.

IT **108266-93-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 108266-93-9 CAPLUS

CN Dammara-20(22),24-diene-3,12-diol, (3.alpha.,12.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



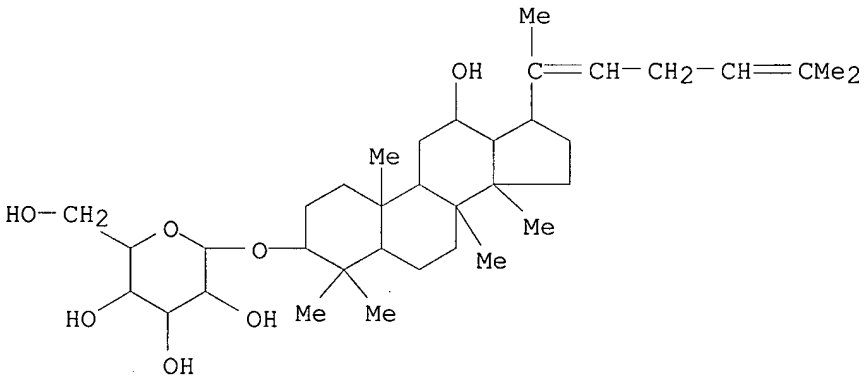
L39 ANSWER 27 OF 34 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1988:147119 CAPLUS
DOCUMENT NUMBER: 108:147119
TITLE: Minor saponins from the leaves of Panax ginseng C.A.Meyer
AUTHOR(S): Chen, Yingjie; Xu, Suixu; Ma, Qifeng; Yao, Xinsheng; Ogihara, Yukio; Takeda, Tadahiro
CORPORATE SOURCE: Shenyang Coll. Pharm., Shenyang, Peop. Rep. China
SOURCE: Shenyang Yaoxueyuan Xuebao (1987), 4(4), 282-9
CODEN: SYXUE3; ISSN: 1000-1727
DOCUMENT TYPE: Journal
LANGUAGE: English

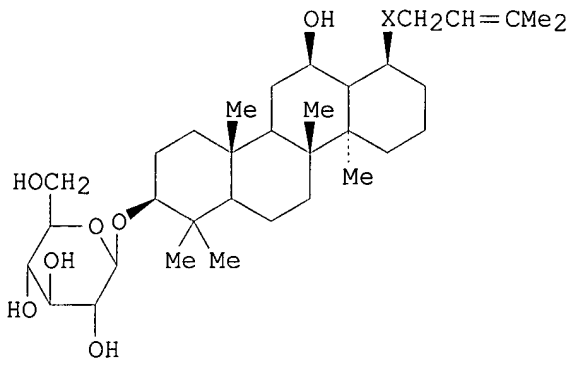
AB Five minor compds. isolated from the leaves of P. ginseng were characterized as 20(R)-protopanaxatriol, daucosterin, 3.beta.,12.beta.-dihydroxy-dammar-20(22),24-diene-3-O-.beta.-D-glucopyranoside (I), 20(R)-protopanaxadiol-3-O-.beta.-D-glucopyranoside (II), and ginsenoside Rh2, resp., on the basis of spectral analyses and chem. evidence. The two new saponins, I and II, were named as ginsenoside Rh3 and 20(R)-ginsenoside Rh2. Nine other major saponins obtained simultaneously were identical with ginsenoside Rh1, -Rg3, -Rg2, -Rg1, -Re, -Rd, -Rc, -Rb2 and Rb1 resp.

IT **105558-26-7**, Ginsenoside Rh3
RL: BIOL (Biological study)
(from ginseng leaves, isolation and identification of)

RN 105558-26-7 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L39 ANSWER 28 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:43892 CAPLUS
DOCUMENT NUMBER: 108:43892
TITLE: New minor saponins isolated from leaves of Panax ginseng C. A. Meyer
AUTHOR(S): Chen, Yingjie; Xu, Suixu; Ma, Qifeng; Pei, Yuping; Xie, Hua; Yao, Xinsheng
CORPORATE SOURCE: Shenyang Coll. Pharm., Shenyang, Peop. Rep. China
SOURCE: Yaoxue Xuebao (1987), 22(9), 685-9
CODEN: YHHPAL; ISSN: 0513-4870
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
GI



I, X=CMe=CH

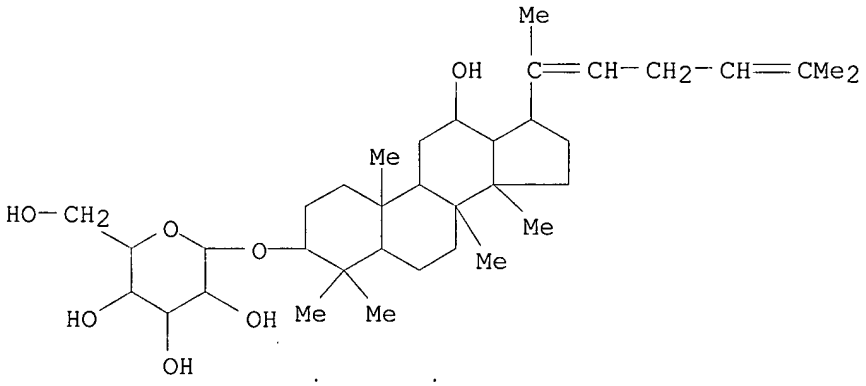
II, X=20R-CMe(OH)CH2

AB Four minor compds. was isolated from the leaves of P. ginseng and characterized as 20(R)-protopanaxatriol, daucosterin, ginsenoside Rh3 (I), and 20R-ginsenoside Rh2 (II).

IT **105558-26-7**, Ginsenoside Rh3
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of Panax ginseng leaves)

RN 105558-26-7 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L39 ANSWER 29 OF 34 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1987:423596 CAPLUS

DOCUMENT NUMBER: 107:23596

TITLE: Glycosylation of dammarane type triterpenoids. IV. .beta.-D-Glucopyranosides of betulafolienetriol and its derivatives

AUTHOR(S): Atopkina, L. N.; Denisenko, V. A.; Novikov, V. L.; Uvarova, N. I.

CORPORATE SOURCE: Tikhookean. Inst. Bioorg. Khim., Vladivostok, USSR

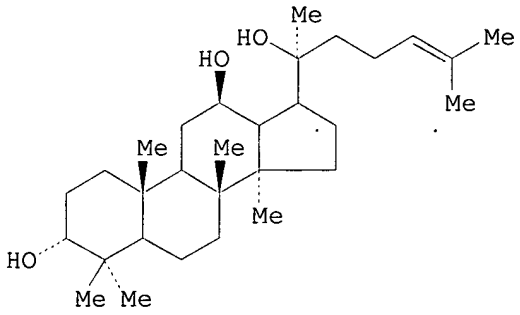
SOURCE: Khimiya Prirodnykh Soedinenii (1986), (3), 301-12
CODEN: KPSUAR; ISSN: 0023-1150

DOCUMENT TYPE: Journal

LANGUAGE: Russian

OTHER SOURCE(S): CASREACT 107:23596

GI



I

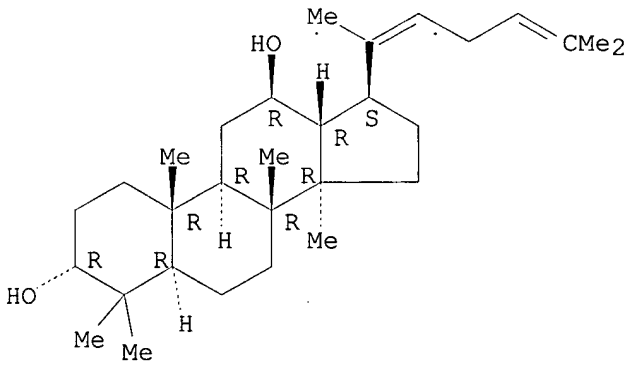
AB Koenigs-Knorr glycosidation of betulafolienetriol (I) gave 3-, 12-, 20-mono- and 3,12-, 3,20-di-O-.beta.-D-glucopyranosides and 3-epimers. Glycosidation by the Helferich reaction or by the orthoester method was accompanied by a dehydration reaction in the side chain which led to the corresponding 20-dehydroxy derivs.

IT **108266-93-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 108266-93-9 CAPLUS

CN Dammara-20(22),24-diene-3,12-diol, (3.alpha.,12.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



L39 ANSWER 30 OF 34 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1987:15706 CAPLUS

DOCUMENT NUMBER: 106:15706

TITLE: Triterpenoids from the leaves of Betula pendula grown in different areas

AUTHOR(S): Pokhilo, N. D.; Denisenko, V. A.; Makhan'kov, V. V.; Uvarova, N. I.

CORPORATE SOURCE: Tikhookean. Inst. Bioorg. Khim., Vladivostok, USSR

SOURCE: Khimiya Prirodnykh Soedinenii (1986), (2), 179-85
CODEN: KPSUAR; ISSN: 0023-1150

DOCUMENT TYPE: Journal

LANGUAGE: Russian

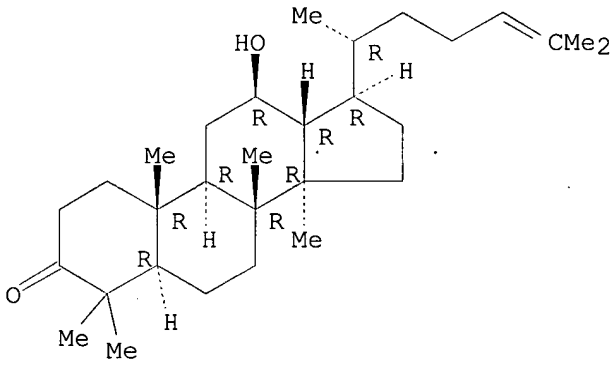
AB Triterpenes were examd. in birch (B. pendula) leaves from 6 localities in the Soviet Union. The total yield of triterpenes ranged 0.021-0.337% on a

dry wt. basis. The yield and no. of components increased in the order: Eastern Siberia > Western Siberia > Urals. The best sources of betulafolienetriol were found in the Sverdlovsk and Leningrad regions. Betulafolienetetrol occurred in greatest amts. in Wester Siberia and Kazakhstan. Structures were established for new triterpenes of the dammarane series: dammar-23-ene-12.beta.,20(S),25-triol-3-one, and the 24(S)- and 24(R)-epimers of dammar-25-ene-3.alpha.,12.beta.,17.alpha.,20(S),24.xi.-pentanol.

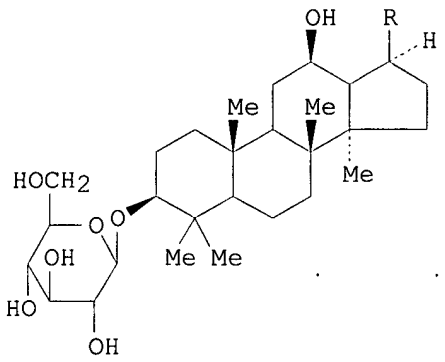
IT **105798-68-3**
RL: BIOL (Biological study)
(of Betula pendula, geog. variability in)

RN 105798-68-3 CAPLUS
CN Dammar-24-en-3-one, 12-hydroxy-, (12.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L39 ANSWER 31 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1987:2889 CAPLUS
DOCUMENT NUMBER: 106:2889
TITLE: New minor constituents of leaves of Panax ginseng C. A. Meyer
AUTHOR(S): Chen, Yingjie; Xie, Hua; Xu, Suixu; Ma, Qifeng; Pei, Yuping; Yao, Xinsheng
CORPORATE SOURCE: Dep. Phytochem., Shenyang Coll. Pharm., Shenyang, Peop. Rep. China
SOURCE: Shenyang Yaoxueyuan Xuebao (1986), 3(3), 191
CODEN: SYXUE3; ISSN: 1000-1727
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
GI



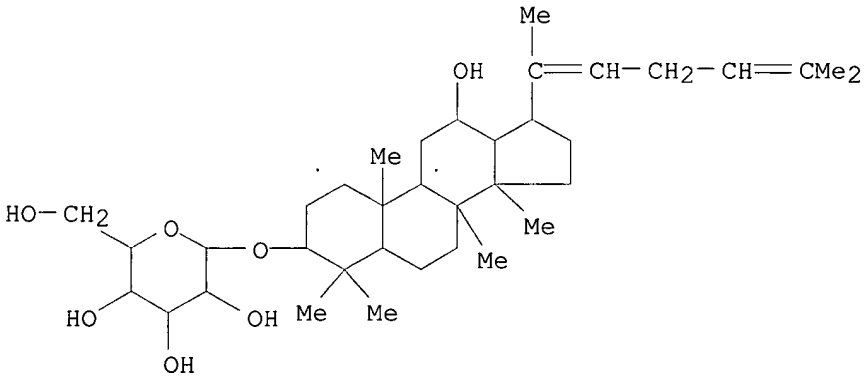
I, R=C(Me)OH(CH2)2CH=CMe2
II, R=C(Me)=CHCH2CH=CMe2

AB Ginsenoside Rh2 (I) and ginsenoside Rh3 (II), 2 novel ginsenosides, were identified from P. ginseng with IR, NMR, and mass spectrometry. Ginsenosides Rh1, Rg3, Rg2, Rg1, Re, Rd, Rc, Rb2, and Rb1 were also detected.

IT **105558-26-7**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(of Panax ginseng)

RN 105558-26-7 CAPLUS

CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.,20Z)-12-hydroxydammara-20(22),24-dien-3-yl (9CI) (CA INDEX NAME)



L39 ANSWER 32 OF 34 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1984:192109 CAPLUS

DOCUMENT NUMBER: 100:192109

TITLE: Effects of side chains at C17 on carbon-13 chemical shifts of dammarane-type tetracyclic triterpenoids

AUTHOR(S): Denisenko, V. A.; Novikov, V. L.; Malinovskaya, G. V.; Elyakov, G. B.

CORPORATE SOURCE: Tikhookean. Inst. Bioorg. Khim., Vladivostok, USSR

SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1983), (12), 2727-34
CODEN: IASKA6; ISSN: 0002-3353

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB Carbon-13 NMR of 24 dammarane derivs. confirmed that the effect of the

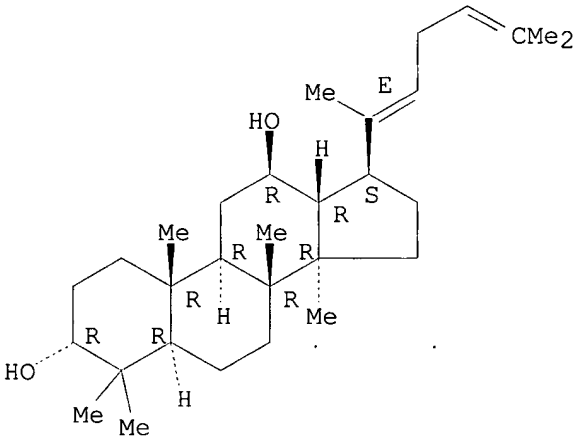
side chain at C-17 on chem. shifts is related to the intramol. H bond between a C-12 OH group and an OH or epoxy group at C-20. .alpha.17-, .beta.13-, And .beta.16-effects are also obsd.

IT **89951-13-3**
RL: PRP (Properties)
(carbon-13 NMR of, effect of side chain on)

RN 89951-13-3 CAPLUS

CN Dammara-20(22),24-diene-3,12-diol, (3.alpha.,12.beta.,20E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L39 ANSWER 33 OF 34 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1982:559539 CAPLUS

DOCUMENT NUMBER: 97:159539

TITLE: Two new dammaran sapogenins from leaves of Panax notoginseng

AUTHOR(S): Wei, Junxian; Chang, Liangyu; Wang, Jufen; Friedrichs, Edmund; Jores, Monika; Puff, Heinrich; Chen, Wei Shin; Breitmaier, Eberhard

CORPORATE SOURCE: Yunnan Inst. Mater. Med., Kunming, Peop. Rep. China

SOURCE: Planta Medica (1982), 45(3), 167-71
CODEN: PLMEAA; ISSN: 0032-0943

DOCUMENT TYPE: Journal

LANGUAGE: German

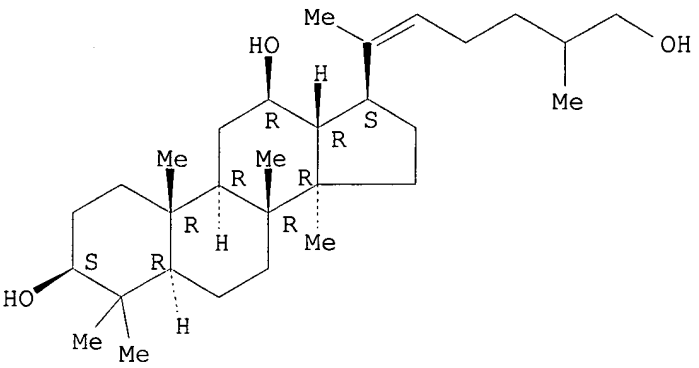
AB Hydrolysis of the crude saponin extd. from the leaves of P. notoginseng yielded 5 sapogenins which were sepd. by column chromatog. Two of these were identified as panaxadiol and panaxatriol. The 3rd sapogenin was found to be dammar-20(22)en-3.beta.,12.beta.,26-triol by 13C-NMR. The structure of the 4th sapogenin was established by x-ray diffractometry and 13C-NMR as 20(R)-dammarane-3.beta.,12.beta.,20,25-tetrol.

IT **83286-21-9**
RL: BIOL (Biological study)
(from Panax notoginseng leaves, isolation and structure of)

RN 83286-21-9 CAPLUS

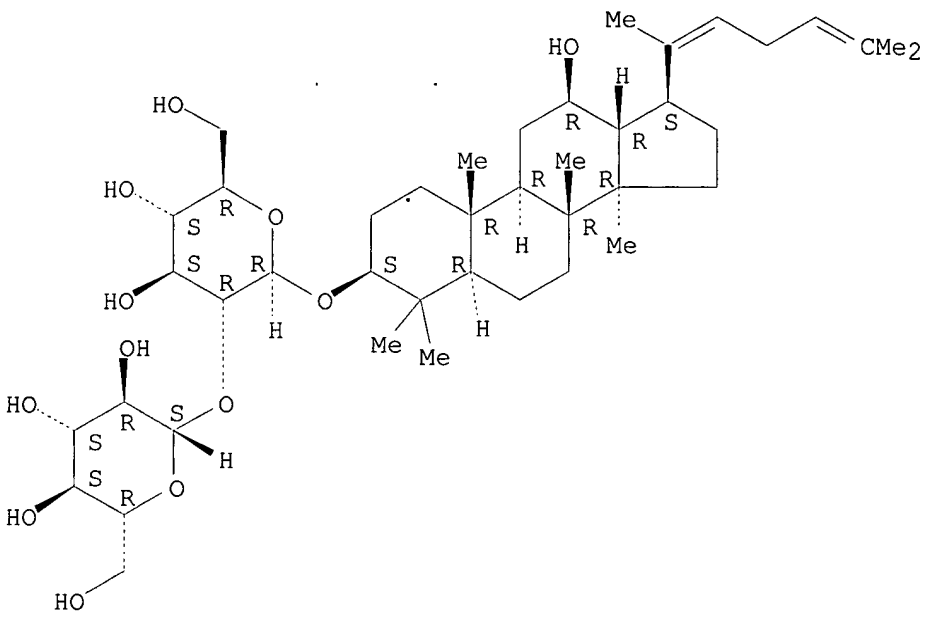
CN Dammar-20(22)-ene-3,12,26-triol, (3.beta.,12.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



L39 ANSWER 34 OF 34 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1980:586729 CAPLUS
DOCUMENT NUMBER: 93:186729
TITLE: Isolation and characterization of ginsenoside-Rg2, 20R-prosapogenin, 20S-prosapogenin and .DELTA.20-prosapogenin. Chemical studies on saponins of Panax ginseng C. A. Meyer, Third report
AUTHOR(S): Kaku, T.; Kawashima, Y.
CORPORATE SOURCE: Cent. Res. Lab., Yamanouchi Pharm. Co., Ltd., Tokyo, Japan
SOURCE: Arzneimittel-Forschung (1980), 30(6), 936-43
CODEN: ARZNAD; ISSN: 0004-4172
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Ginsenoside Rg2, isolated from the lateral roots of Panax ginseng, and chikusetsusaponin I, isolated from rhizome of Panax japonicus, were identical in all respects and both had (-) optical rotation which is opposite to the published data. Hydrolysis of a mixt. of ginsenoside Rb1, Rb2, and Rc with 50% aq. AcOH gave 3 compds., which were identified as 20R-prosapogenin (I), 20S-prosapogenin, and .DELTA.20-prosapogenin. I was identical with ginsenoside Rg3.
IT **74964-14-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 74964-14-0 CAPLUS
CN .beta.-D-Glucopyranoside, (3.beta.,12.beta.)-12-hydroxydammara-20(22),24-dien-3-yl 2-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



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>>>  publications.  The publication number, patent kind code, and      <<<
>>>  publication date for all the US publications for an invention     <<<
>>>  are displayed in the PI (Patent Information) field of USPATFULL   <<<
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>>>  USPATFULL and USPAT2 can be accessed and searched together        <<<
>>>  through the new cluster USPATALL.  Type FILE USPATALL to          <<<
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substance identification.

```
L24             STR
L28         429 SEA FILE=REGISTRY SSS FUL L24
L36             STR
L38          19 SEA FILE=REGISTRY SUB=L28 SSS FUL L36
L40           0 SEA FILE=USPATFULL ABB=ON  PLU=ON  L38
```

```
=> file caold; d que nos l41
FILE 'CAOLD' ENTERED AT 16:54:49 ON 11 MAR 2003
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  assignees, and patent information, e.g., patent numbers, are
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  printed between 1907-1966 are available in the PAGE
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  all substance data from the REGISTRY file.  Enter HELP FIRST for
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```

```
L24             STR
L28         429 SEA FILE=REGISTRY SSS FUL L24
L36             STR
L38          19 SEA FILE=REGISTRY SUB=L28 SSS FUL L36
L41           0 SEA FILE=CAOLD ABB=ON  PLU=ON  L38
```

```
=> file home
FILE 'HOME' ENTERED AT 16:54:53 ON 11 MAR 2003
```